JPRS 81009

9 June 1982

China Report

AGRICULTURE

No. 209

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CHINA REPORT

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CONTENTS

PEOPLE'S REPUBLIC OF CHINA

Hebei

Hunan

ABSTRACTS

I. GENERAL INFORMATION

STATE COUNCIL DIRECTIVE ON GRAIN PROCUREMENT, SALES ISSUED

Beijing ZHONGGUO CAIMAO in Chinese 20 Mar 82 p 1

[Article: "State Council Decides Sole Responsibility Work Contracting for Grain Procurement, Marketing, and Allocation Guaranteed Unchanged For Three Years Beginning From This Year's Grain Year"]

[Text] In order to meet the new circumstances in national economic development and to carry out the program of "positively no slackening of grain production while actively developing economic diversification," the State Council has decided that beginning from 1 April this year, that is the beginning of the 1982 grain year, that except for Tibet and Xinjiang, all provinces, municipalities, and autonomous regions will institute sole responsibility work contracting for grain procurement, marketing and allocation, guaranteed not to change for 3 years.

The State Council approved management method of sole responsibility work contracting for grain procurement, marketing and allocation guaranteed for a period of 3 years stipulated that the agreed upon fixing of all sole responsibility grain figures is to be done by refering to actual figures for the past several years, with future changes in development of grain production, procurement, and marketing taken into consideration. Sole responsibility figures for marketing include both nonagricultural and agricultural marketing as well as grain for special use expended by the central government. Inbound grain transfer sole responsibility figures include normal allocation and grain for special use expended by the central government, and outbound grain transfer sole responsibility figures are outbound transfer figures minus special use grain, and determination of quantities of principle kinds of grain inbound and outbound. After all the sole responsibility figures have been determined, they will remain unchanged for the 3 year period from 1982 to 1984.

This method provides, inter alia, that in order to meet the new circumstances in the collective agricultural economy of instituting production responsibility systems, the state may institute sole responsibility contracting for excess grain procurement by production teams guaranteed for a period of 3 years. After production teams, groups, and households have fulfilled their excess procurement tasks, they have the right to dispose of excess grain as they see fit. Production teams growing cotton, sugar crops, and vegetables, or engaged in fishing, salt making, forestry, or animal husbandry under guidance of the state plan, and those selling products to the state in accordance with the plan that are grain deficient year after year may institute sole responsibility work contracting for grain marketing guaranteed for a period of 3 years.

This method also stipualtes that once the state sets sole responsibility work contracting figures for grain procurement, marketing, and allocation, as a rule no readjustments will be made. Within the period of sole responsibility work contracting, when provinces, municipalities, and autonomous regions purchase more grain that they sell, it will be the responsibility of localities to store it as reserves from bumper years against lean years. If because of natural disasters or for some other reason new grain shortages occur, locales should take action themselves to solve the problem. In major disaster years when the central government is required to transfer grain to solve the problem, localities will subsequently have to pay it back. After all jurisdictions have fulfilled state excess grain procurement tasks, they may enter into negotiated purchases and negotiated sales of grain to move grain from surplus areas to shortage areas so as to enliven the markets, to even out grain prices, and to make negotiated pruchases a supplementary channel by which the state can control grain sources. Following sole responsibility work contracting for grain, all jurisdictions must conscientiously implement pertinent grain programs and policies formulated by the State Council.

9432
CSO: 4007/355

COMPOUND LIVESTOCK FEED INDUSTRY DEVELOPMENT EXAMINED

Beijing RENMIN RIBAO in Chinese 19 April 1982 p 2

[Article by newspaper commentator: "Give Serious Attention to Development of China's Livestock Feed Industry"]

[Text] During the past few years, the livestock feed industry has developed fairly rapidly. The country has built 358 compound (mixed) livestock feed processing plants with a year-round output of more than 2,000 tons, and another 100-odd plants are in process of construction. Once construction of these plants has been completed, compound feed total output capacity will reach more than 2 million tons. Nevertheless, this is only about 4 percent of the country's total consumption of livestock feed, and is far from being able to satisfy the needs of animal husbandry industry production. Consequently, how to further develop the country's livestock feed industry should arouse the serious attention of leaders concerned.

Currently some comrades lack an accurate perception about development of the livestock feed industry. For example, some people suppose that "the problem of adequate grain production has not been solved yet, so it will be difficult to provide for livestock feeds," or "why be so fussy about livestock and poultry feed?" Such views are not well thought out. It is precisely because ours is a country with a large population relative to available land in which average grain levels are relatively low that compound livestock feeds are necessary in order to conserve grain. A comparison of the compound feeds that the country produces now with ordinary livestock feeds shows that when fattening hogs, the feeding time can be reduced by 2 to 3 months for a drop of about 20 percent in feeding costs. Its economic value is extremely clear.

One also hears that "compound livestock feed requirements are high, and China's livestock resources are inadequate to meet them." Certainly China's livestock feed resources are insufficient and quality is not high. However, one should also realize that many of the country's resources have yet to be used in a fully sensible way, and that even waste exists. For example, the cake residue from cotton and rape seeds has a 30 to 40 percent crude protein content. Each kilogram contains 3,000 digestible calories of heat, making them a fine plant protein livestock feed. Annually about 7 billion jin of such seed cake is largely used directly for fertilizer. Were it used as livestock feed first and later as fertilizer, or if the cake were added to a proper amount of grain

and bran for feeding hogs, not only could grain be saved, but the effectiveness as fertilizer of the hog dung and hog urine would be much higher than that of the cake alone. Were half of the cottonseed and rapeseed cake produced annually in the country used for livestock feed, pork production could be increased by more than 600 million jin. In addition, some of the leftovers from the food and aquatic products industries as well as powdered silkworm chyrsalis also make fine sources of livestock feed. If only we would use them well, the problem of livestock feed sources could be gradually solved, and the livestock industry now abuilding would have great prospects.

Naturally this is not to say that there are no difficulties in development of the livestock feed industry. For example, financial and material resources are insufficient, and experience and technical strength is lacking. Therefore, how to develop a livestock feed industry with a Chinese character is a topic that merits our study. In this regard, some advanced areas have provided us fairly good experiences. On the basis of their own circumstances, Changzhou, Wuxi, and Suzhou in Jiangsu Province have made full use of existing enterprises to rebuild their livestock feed processing plants, receiving economic benefits in little investment of funds for quick results. The experiences of these areas show that the building of livestock feed processing plants requires proceeding on the basis of China's circumstances, acting according to capabilities, and being concerned about economic benefits. Naturally, it is also necessary to work from a universal basis to give attention to improving work. For example, in places developing livestock feed industries that have fairly good size, funds, and technical conditions to begin with, attention should be placed on improving technological equipment, on gradually operating a livestock feed additive industry, and an enriched livestock feed processing industry so as to increase the varieties of livestock feeds and improve livestock feed quality. You can believe that with further readjustment of the national economy, a new situation of rapid development will inevitably develop in China's livestock feed industry.

9432
CSO: 4007/383

REPLACEMENT FOR MERCURY AND ARSENIC PESTICIDES REPORTED

Shanghai JIEFANG RIBAO in Chinese 15 Apr 82 p 2

[Article: "Particularly Effective New Pesticide To Prevent Cotton Seedling Root Disease and Wheat Smut. Toxicity Less Than One-Thousandth That of Former Pesticides"]

[Text] There is good news for peasants. The formerly difficult to control damping off and anthracanose of cotton, cotton seedling root disease, and wheat smut now have particularly effective new pesticides--"Banzhongling" and "Banzhongshuang." These new pesticides were successfully developed by the Shanghai Pesticide Institute. Recently, following approval by units of the Chinese Academy of Agricultural Sciences organized by the Ministry of Agriculture, they went into large-scale production.

Cotton seedling root disease and wheat smut are two of the 14 main agricultural diseases in China that cause extreme damage to the growth of cotton and wheat, frequently occasioning severe declines in output. Because of a halt to the use of "Ceresan" [ethyl mercuric chloride] and "Sanlisan," pesticides in which seeds were mixed, but which contained mercury that polluted the environment, and because of limitations on use of "Daojiaoqing" pesticide, which contains arsenic, in some places when cotton was planted only untreated seeds went into the fields, and cotton seedling root disease has made a general comback in all cotton growing areas. In order to solve this problem, following many years of research, the Municipal Pesticide Institute finally succeeded. Its toxicity is less than one-thousandth that of pesticides formerly used. Experiments conducted in cotton growing areas of Hubei show 65.8 percent effectiveness in the prevention and control of cotton seedling disease, and a maximum effectiveness of 85.5 percent. Experiments conducted in cotton growing regions of Heilongjiang Province show a better than 85 percent effectiveness in prevention and control of wheat smut, vastly higher than pesticides containing mercury or arsenic.

9432
CSO: 4007/383

PURPOSES, PROCEDURES FOR LOAN ISSUANCE OUTLINED

Beijing ZHONGGUO NONGMIN BAO in Chinese 25 Mar 82 p 2

[Article by Lu Jianxiang [6424 1696 4382]: "How to Improve Agricultural Loan Economic Benefits"]

[Text] In his report titled, "The Present Economic Situation and a Program For Future Economic Construction," Comrade Zhao Ziyang pointed out, "Using every available means to increase economic benefits in each of the fields of production, construction, and circulation is a central issue." Natural this is also a central issue in agricultural loan work, and is a standard for evaluating the quality of loan fund use. Economic benefits from loans are manifested in two ways. First is whether production by the unit or individual supported by the loan produces the economic benefits it should. Second is whether the loan can be recovered on time for steady acceleration of the circulation of funds. The two are interrelated, but the former is fundamental.

In 1981 economic benefits derived from agricultural loans improved nationally. However problems of continued lack of serious attention to economic benefits remained in some places. Some loans have not been used to support key projects for increasing commune and production brigade increases in production and income. Some loans have been used by speculators and profiteers, and not only did not play a role in development of production, but rather destroyed production. Still other loans were turned into loans to provide favors, being diverted to help people invite others to dinner or send gifts in a bad situation of extravagance and waste. Even loans used for relatively porper purposes did not bring the economic benefits they should have.

How can the economic benefits derived from agricultural loans be improved? First it is necessary to do a good job of investigation and study in issuing loans. Only when circumstances are clear can loans be approved and be good loans. First, it is necessary to investigate whether the borrowing unit or individual's activities are in accord with provisions of state plans, whether they are in accord with party and state programs and policies, and whether they are in accord with requirements for readjustment of the agricultural economy. Second is investigation of the borrowing unit or individual's operating situation, production capabilities, and technical level. Third is investigation of whether the items for which the loan is to be issued will make the most of local advantages, achieving large economic benefits and quick results from little investment, and whether production, supply, and marketing channels are unimpeded.

Fourth is the need to investigate whether the borrowing unit or individual's credit and loans have adequate material backing, and what are their capabilities for repayment of the loan. From a basis of understanding circumstances, and in accordance with loan policies, principles, and plans, factually determine the purpose for which the loan is to be used, the amount, how it will be used, and its length.

Secondly, banks and credit cooperatives must link their own economic benefit and the economic benefit of the borrowing unit or individual, making lending operations penetrate into the individual links of production, exchange, distribution, and consumption of the object for which the loan is used. Only after credit funds have been loaned out and the objective for which the credit was issued goes into production can new value be created. Therefore, banks and credit cooperatives must go into the areas of production and circulation and think about what producers think about, worry about what producers worry about, and help producers with their needs, doing a conscientiously good job of production. It is also necessary to fully apply the wideranging quality of financial operations to open production and marketing channels, combining unit or individual operations with society's needs. Additionally, credit funds are intermingled with the borrowing unit or individual's funds, and with funds from other sources. This requires that banks and credit cooperatives help those to whom loans have been made do a good job of financial management, make equitable use of funds, reduce labor expenses, and improve the labor productivity rate to gain fairly high economic benefits.

Third is active promotion of loan agreement systems and diligently carry out economic contract methods. Loan agreements protect the interests of both borrower and lender and assure on-time repayment of loan funds. They are important contracts enjoying protection of the law. They are major means by which banks and credit cooperatives manage and use funds. Therefore, it is necessary gradually to establish and perfect agreement systems. When both borrower and lender sign the agreement, they must obey the legal stipulations, and diligently carry out pertinent party and state programs and policies. They must carry out a program of the planned economy foremost, market regulation supplementary. They must abide by the principles of equality and mutual benefit, reaching unanimity through consultation, and payment at equal value. Agreements link loans to the individual links of production, exchange, and distribution to form an interdependent and mutually restrictive organic whole that together promotes development of production and circulation of funds.

Fourth is help to borrowing units to do a good job of distributing profits. The principle of the interests of the country, the collective, and individuals must be adhered to, borrowing units being helped to verify earnings, recover "outstanding debts," repay "debts outstanding," not make any false estimates, or rash distributions, on the one hand, and in accordance with national policy stipulations to deduct all taxes to be paid, accumulations to be withheld, various expenses, and honoring required distribtuions to commune members on the other. Only in this way can the collective economy be strengthened and the enthusiasm for production of commune members be aroused. Bank and credit cooperative recovery of loans on due dates will also be assured. If these four kinds of work are done well, economic benefits from agricultural loans will gradually increase, thereby promoting development of the rural economy.

9432
CSO: 4007/355

PREVENTION OF WHEAT DISEASE ERYSIPHE GRAMINIS DC URGED

Disease Widespread

Beijing RENMIN RIBAO in Chinese 10 Apr 82 p 2

[Article: "Tightly Grasping the Prevention and Control of Erysiphe Graminis DC, at Present, Disease in Some of the Wheat Regions in the Middle and Lower Reaches of Changjiang and Henan and Shandong Has Already Occurred. It Is Hoped That Each Locality Can Grasp the Task of Organizing Prevention and Control Tightly To Assure a Bumper Harvest of Summer Food Grains"]

[Text] In recent years, Erysiphe graminis DC has gradually worsened in the nation's large wheat regions. It has become a serious threat to summer food grains production. Last year, in some of the wheat regions in the middle and lower reaches of Changhiang and the north, summer food grain production dropped by 10 to 30 percent because of Erysiphe graminis DC. At present, the disease has occurred commonly in Hubei. The rate of occurrence of the disease in seriously affected regions of wheat fields has reached 100 percent. It is estimated that by the middle 10 days of April, a peak occurrence of the disease will occur. The disease has also begun in many regions in Jiangsu. According to forecasts by forecasting stations in Wuxian, Jiangying, Xinghua, and Funing counties, this year is also a year of serious outbreak of the disease. The occurrence and the degree of damage will approach those of last year, but the period of peak occurrence will be 10 days later than last year. The occurrence of the disease in the suburban counties of Shanghai City and in Anhui is similar to that in Jiangsu. The occurrence of the disease in most regions in Zhejiang is medium to slightly severe, although less severe than last year, but still more severe than other years. Occurrence of the disease in Hunan and Sichuan is not balanced. For example, the disease is more severe in Cili, Shaodong, Leshan, Chongqing, Rongxian counties and Rongxian city while the disease is slight in regions where spring drought has occurred and where water and fertility conditions are poor. The occurrence of disease in the highly fertile and highly irrigated wheat regions in the Huanghe River Valley in Henan and Shandong will also be medium or medium to slightly severe.

Because most of the wheat varieties cultivated at the various localities at present are not resistant to the disease, the major outbreak of Erysiphe graminis DC in the wheat regions last year has accumulated a large amount of bacterial sources this year. Each locality reported that this year, the application of nitrogen fertilizers was generally too much and too late. These

all provided conditions for the spread of the disease. According to meteorological reports, some parts of the middle and lower reaches of Changjiang and Henan and Shandong had more rain. The temperature was slightly lower or approached that of normal years. These are favorable to the occurrence of the disease. It is hoped that each locality strengthens field surveys, combines local weather forecasts, does not lose the opportunity to organize prevention and control efforts to control the spread of the disease and to assure a bumper harvest of summer food grains.

Characteristics of Disease

Beijing RENMIN RIBAO in Chinese 10 Apr 82 p 2

[Article by Geng Bingjin [5105 4426 2516] of the General Forecasting Station of Agricultural Diseases and Insect Pests of the Ministry of Agriculture: "Erysiphe Graminis DC"]

[Text] Erysiphe graminis DC is a fungus disease. The leaves, the leaf sheath, the glume of spikes and the stem can all become infected by the pathogenic bacteria. At the beginning stage of the disease, small and light yellow spots first appear on the leaves. Then they expand into circular or oval diseased spots. White powder composed of hypha and separately growing spores occur on the diseased spots. During the late period of the disease, the diseased spots become greyish brown. As the disease develop, the green color of the leaves gradually fades and becomes yellow until the leaves wilt.

Erysiphe graminis DC selects its host strictly. Its spores are propagated by air currents. It most easily causes infection and spreads under a temperature of 12 to 18°C and when the humidity is saturated. In spring, the temperature is slightly higher. During the heading and flowering periods of wheat and barley, the weather is continuously overcast, sunshine is deficient, and humidity is too high. If drainage in the field is poor, and if too much nitrogen fertilizer has been applied, the disease can occur more easily.

Method of prevention and control: 1) select disease resistant superior varieties; 2) plant rationally densely and apply fertilizers so that nitrogen, phosphorus and potassium are used in balance, appropriately increase the application of phosphorus and potassium fertilizers, pay attention to cleaning the furrows and drain the water; 3) for prevention and control by chemicals, a lime and sulfur compound, carbendzxol, Tuzet, thiophanate can be used.

9296
CSO: 4007/366

BRIEFS

HIGH LYSINE HYBRID CORN--Corn expert Li Jingxiong [2621 4544 7160] of the Crop Breeding and Culturing Institute of the Chinese Academy of Agricultural Sciences has bred China's first group of high lysine corn hybrid varieties, "Zhongdan 201," "Zhongdan 202," "Zhongdan 203," and "Zhongdan 204." Test results obtained during the past 2 years from more than 30 different sites have shown yields per unit of area approximating those of the presently widely grown fine hybrid variety, "Zhongdan No 2." Yields are generally around 800 jin per mu and maximum yields are more than 1,000 jin. These varieties are resistant to large and small leaf spot. [Text] [Lanzhou GANSU RIBAO in Chinese 22 Mar 82 p 3] 9432

IMPROVED SHEEP RAISING TECHNIQUES--Promotion of China's sheep improvement techniques has been going on for 30 years. Beginning with experiments in the period immediately following founding of the People's Republic, it went through the importation from abroad of fine varieties, use of artificial insemination techniques, development of improved hybrids, and on to the breeding of new breeds. At one time improved fine wool and semi-fine wool sheep numbered fewer than 10,000 head, but by the end of 1980 this number had grown to 36 million head or 35 percent of the total number of sheep in China. Prior to 1971, 80 percent of the wool used by the textile industry came from imports, but now 80 percent is domestically produced wool. In terms of economic benefits, a single improved breed fine wool sheep averages 3.5 kilograms of wool. Income from wool production alone is 14 yuan more than from indigenous sheep breeds. The 36 million head of improved sheep have increased output value by a total of more than 500 million yuan. In addition, they have increased mutton output by an annual more than 300,000 tons, with a value of more than 45 million yuan. Xinjiang Province, the first area in the country to begin production of fine wool sheep breeds, "Xinjiang combination wool and meat fine wool sheep," has promoted a large number of fine breed sheep everywhere and has played an important role in China's sheep improvement work. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Apr 82 p 2] 9432

CSO: 4007/384

IMPROVEMENT SOUGHT IN EARLY RICE YIELDS

Fuzhou FUJIAN RIBAO in Chinese 24 Mar 82 p 1

[Article by Zhang Yonghe [1728 3057 0735], Longyan Correspondent Station: "Devote Efforts To Increasing Grain Yields Per Unit of Area. Longyan Prefecture Taps Potential To Do a Good Job of Scientific Farming"]

[Text] Proceeding from a foundation of setting the area to be planted to early rice, Longyan Prefecture leadership organizations have gone on to propose a main attack on yields per unit of area and the use of every available means to win a bumper harvest from the early crop.

Following investigation and study, the Longyan Prefecture CCP Committee and government administrative offices acknowledged Longyan Prefecture's consecutive increases in output during the past several years. Nevertheless, the prefecture's potential for increased output is still very great. A look at the prefecture's 2.08 million mu of grainland shows yields of double crop early rice to have been as high as 1,600 jin and as low as slightly more than 300 jin for an average of 499 jin. For intermediate rice, yields per unit of area were as high as slightly more than 1,500 jin and as low as slightly more than only 200 jin for an average of 542 jin. For double crop late rice, maximum yields were 1,500 jin per mu and minimum yields were 200 jin per mu for an average of 442 jin per mu. The differences between highs and lows have been very great. Were the prefecture's early rice yields per unit of area to increase to 800 jin, an increased output of more than 400 million jin would result from this increase alone.

How can grain yields per unit of area be made to rise? The Longyan Prefecture CCP Committee and government administrative offices have proposed, first of all, an adaptation of general methods to specific situations, and equitable readjustment of agricultural crop patterns, all places that lend themselves to the growing of double crops of rice persevering in the growing of double crops of rice. However, in places where the frost-free period is short and outputs from the growing of double crops of rice inconsistent, commune members should be encouraged to grow one crop of rice and one crop of miscellaneous other grains. In this way, consistently high grain yields can be assured and the growing of economic crops expanded to achieve development of both grain and economic crops. In another realm, commune members should also be encouraged to farm responsibility fields, make full use of the ground and of empty spaces for sensible amounts of intercropping, and arranging things flexibly.

Second, the level of scientific farming should be increased, key agricultural science and technology measures taken firmly in hand with vigorous promotion of high yield, strongly disease resistant varieties of early rice. For double crop rice, it is necessary diligently to summarize the lessons of many years' experiences of early rice sustaining damage from "May cold," for scientific planning of sowing and planting time. Special attention should be focused on the main reasons why rice yields per unit of area are not high, namely few effective panicles, a low heading rate, a lot fruiting rate, and low per thousand grain weight. Reasonably close planting should be done to increase the number of effective panicles. In view of the situation throughout the prefecture of imbalanced fertilization with nitrogenous, phosphate, and potash, cutbacks should be made in the amount of nitrogenous fertilizer used while use of phosphate, potash and organic fertilizer should be increased, the organic fertilizer allowing cutbacks in the quantity of chemical fertilizer used. In addition, a diligent job should be done of monitoring, reporting, preventing, and controlling diseases and insect pests.

Third is strengthening of the building of an agricultural technical crops. A personal responsibility system should be established for agricultural technical cadres and rotational training of the existing 1,900 agricultural technical cadres should continue. Focus should go on helping the more than 60,000 science and technology households study scientific agricultural knowledge, the experiences of competing for first place in high yields of intermediate rice of Yongfu Commune in Zhangping County being promoted so that scientific farming levels everywhere in the prefecture levels everywhere in the prefecture will go up a notch, forming movement for increased grain yields centering on a major attack on per unit yields.

9432
CSO: 4007/383

MAJOR EFFORT DECREED TO IMPROVE YIELDS FROM LOW-YIELD FIELDS

Fuzhou FUJIAN RIBAO in Chinese 24 Mar 82 p 1

[Article by Wu Wenkeng [0702 2429 6972], Jianyang Prefecture Communications and Liaison Station: "Direct the Main Attack Against Intermediate and Low Yield Fields. Jianyang Prefecture Takes Firm Grip on Key Points in Implementing This Year's Measures for Increased Yields, Taking in Hand 1.45 Million Mu of Intermediate and Low Yield Fields"]

[Text] Recently Jianyang Prefecture convened a conference for exchanges of experiences on agricultural science and technology at Chongan County. At this conference, the Prefecture CCP Committee proposed the following. The prefecture's grain production this year is to be on the basis of stabilizing the existing grain growing area, and the main direction of attack is to be changed to improvement in low yield fields, inasmuch as there are many low yield fields in the mountain areas of northern Fujian, to increase yields per unit of area. Delegates related to this decision on the part of the Prefecture CCP Committee the fact of last year's furious efforts on 1 million mu of intermediate and low yield single crop late rice fields, which increased output by 70 million jin. They acknowledged the direction of attack to be the right one and in accord with reality.

Jianyang Prefecture has 3 million mu of cultivated land and sows an area of 5.4 million mu [by double cropping part of the 3 million mu], 1.95 million mu with double crops of rice, and 1.05 million mu with a single crop of rice. In 1981 double rice crop yields averaged 473 jin per mu, 600,000 mu yielding less than 400 jin per mu. Double crop late rice yields averaged 479 jin per mu, 400,000 mu yielding less than 400 jin. Single crop late rice yields averaged 510 jin per mu, 450,000 mu yielding less than 450 jin per mu. Low yield fields thus amounted to 1.45 million mu. In view of these circumstances, the Prefecture CCP Committee regarded as not very high northern Fujian grain yields per unit of areas and believed potential to be very great. If only increases of 50 jin per mu could be realized from these intermediate and low yield fields, which account for one-fourth of the total, output could be increased by 72.5 million jin, three-fourths of the quota for increased output for the entire year.

The Prefecture CCP Committee proposed the following actions in the attack on intermediate and low yield fields:

1. Attention to propaganda and education work to correct an attitude that emphasizes high yield fields and slights low yield fields, emphasizes good fields and slights bad fields, and emphasizes fields close by one's dooryard while slighting ridged fields in distant mountains that exists among some cadres and masses. 2. Further summarization, perfection, and consolidation of agricultural production responsibility systems, diligent attention being given the making of contracts. These contracts may be guaranteed without change for 3 or 5 year periods so that peasants can do some long-range planning on improvement of low yield fields. 3. Energetic promotion of scientific farming. The main reasons for low yields from low yield fields in northern Fujian mountain areas are, first, natural disasters, foremost of which are "return of spring coldness," "May cold," "autumn cold," "high temperatures," and "June rains." Second is disease and insect pests, notably blast of rice. Third is seedlings just sitting without growing. In this regard, vigorous efforts should be made to increase combat against disasters, to guard against disease, and to do agricultural science and technical work. Fourth, all trades and industries should vigorously support agriculture, and vigorously improve low yield fields.

Right now all jurisdictions are in process of implementing the Prefecture CCP Committee's actions and arousing the masses to do a good job of spring farming and production.

9432
CSO: 4007/383

IRRIGATION PROBLEMS RESULTING FROM DECENTRALIZATION DISCUSSED

Fuzhou FUJIAN RIBAO in Chinese 18 Mar 82 p 2

[Article by Reporters Lin Ben [2651 1149] and Yan Zhenyu [7346 2182 5148]: "Solution to the Problem of Farmland Irrigation Difficulties"]

[Text] In some counties and communes in Jinjiang Prefecture, spring drought has appeared during the past several days, and water is badly needed both for wheatfield irrigation, and for spring farming of the thawed fields, yet people rarely go to the reservoirs to request release of water. Could it be that there is no water in the reservoirs? No. Units concerned have explained that more than 300 million cubic meters of water are in storage in reservoirs of all kinds throughout the prefecture, and water is sufficient for spring farming. Then why has this abnormal situation occurred?

We conducted an investigation in Jinjiang Prefecture agricultural units where we learned it is mostly because following rural promotion of various forms of contract responsibility systems linked to output, a series of new circumstances and new problems have arisen in management and use of water, and these new circumstances and new problems have not yet been satisfactorily solved. They are mainly as follows.

First, the units using water have changed. Formerly it was production teams and villages that made collective requests to reservoirs for the release of water. They contracted for an amount of flow, fees being collected per cubic meter under unified management. Last year following institution of production responsibility systems, units requesting use of water changed from teams and villages to myriad households.

Second, the organization in charge of water has scattered. Formerly each irrigation zone established an irrigation zone representative assembly, which held regular meetings and studied farmland irrigation problems. A combination of specialized management and mass management was practiced in water conservancy and irrigation. In the irrigation zone, every production brigade had a chief of brigade water control, and every production team had personnel for water control who were responsible for brigade and production team requests for water, release of water, and collection of fees. After responsibility systems were put into effect, the commune, brigade, and masses control teams came to a standstill, and in many brigades and production teams in which the problem of their remuneration had not been solved, the personnel in charge of water control simply disappeared and no one was centrally responsible for requesting water, releasing water, or collecting fees.

Third is difficulties in asking for water and releasing water. Nowadays no one is in charge of silt removal from the ditches, so anyone who wants to request water frequently has to remove the silt himself. As a result, commune members who have contract fields "on the tail end of the water" back away from using water because they fear that because of the long ditches, much water will be consumed and they will have to spend a lot of money, in addition to which they will have to clean out the ditches. Commune members at the "head end of the water" like to wait until those "on the tail end of the water" ask for water. They then take the occasion to intercept the water or bail it out with buckets rather than ask for water themselves. In some places have appeared "strong ones" who won't ask for water, and "weak ones" who do not dare ask for water. When water is used, no one admits to owing for it, and when water is released no one looks after it, which has led to outbreaks of quarrels over water rights and the destruction of water conservancy facilities. Last year at Nan'anguanqiao Commune, because commune members at the "head end of the water" and at the "tail end of the water" took a wait-and-see attitude toward each other, much of the several tens of mu of crops parched to death creating a drop in output. Nowadays in some places where fields need water, the same thing happens.

Because leaders devoted considerable attention and adapted to the new rural situation of production responsibility systems, strengthened investigation and study, and adhered to the mass line at the Sizhou Reservoir in Huian County, the Houqiao Reservoir in Nan'an and at other places in this prefecture, water conservancy and irrigation problems were solved rather well. Now that the need for water for spring planting is extremely imminent, all levels of leadership must solve the following several problems.

1. Rapidly revive and reestablish the mass control corps for water conservancy. Production birgades and production teams are to revive and put in place personnel in charge of water, establishing centralized planning, centralized irrigation, and centralized settlement of accounts and payment of water fees by commune members using water to irrigate their fields. In units in which the collective economy is run fairly well, remuneration for water control personnel may be paid from the collective's "three monies," or from earnings of commune and brigade enterprises. In units in which the collective economy is fairly weak, discussions may be carried out with the masses to find some other means of providing allowances. Where conditions permit, irrigation zone representative assemblies may also be revived and hold regularly scheduled meetings to study irrigation zone irrigation problems, and to work out systems of responsibility or rural civil agreements to resolve fights over water rights. Specialized reservoir corps should also be strengthened, and specialized personnel motivated to develop the raising of fish, the growing of fruit and processing in reservoir areas as part of economic diversification to increase earnings to solve present difficulties in some reservoirs of "using water to support water."

2. The problem of clearing silt from ditches must be solved. In many places a system of contracting the clearing of silt from sections of ditches virtually does not exist. In some brigades or production teams, only when compelled by circumstances are some people called upon to clear the ditches, and more than 2 yuan per day in wages has to be paid before anyone is willing to do it. They

do not dare arouse commune members to contribute obligatory labor fearing increase in unreasonable burdens on the peasants. When we solicited the views of some comrades in prefecture agriculture departments, they felt that proper organization of peasants to do some obligatory labor in public welfare endeavors such as removing silt, looking after dikes, and protecting water conservancy facilities was permissible and could not be considered an unreasonable burden. Some suggested that it might be possible to revive the method used before the "cultural revolution," of centralized control by communes. In this way, removal of silt and requests for water could be dealt with promptly for the convenience of commune members. All locales can discuss this problem to find a way to solve it.

3. Need for change in method of collecting water fees. Judging from the experiences of some communes and brigades in Jinjiang Prefecture, a change to the collection of fees in cash would be well received by users. Of course, one can also proceed from realities to adopt some other method. For example, payment can be made first and accounts settled later, or tickets for water could be purchased with cash ahead of time and water provided in return for water tickets. Under special circumstances, water could be released into culverts or conduits at the time cash was paid. If these methods posed difficulties, water could be released and regular fees paid later on the basis of contracts, etc. Where conditions permit, communes and production brigades might also take control of the water with uniform payment of water fees.

4. Support and coordination required from every quarter. For example, the Shanmei Reservoir irrigation zone extends over three counties and one city, but a problem that is now encountered is that water is released only when they want to generate electricity. Sometimes farmlands urgently need water, but they will not start up the machinery to release water. Last year, for example, Huian encountered such a situation in combating drought, and the masses have a lot of complaints about it. They demand that water and electricity be closely coordinated, with overall arrangements made so that electricity can be generated to increase economic benefits, and irrigation of the fields can be assured to support agricultural production.

9432
CSO: 4007/355

NEED FOR GRASSROOTS IDEOLOGICAL INDOCTRINATION UNDERSCORED

Fuzhou FUJIAN RIBAO in Chinese 5 Feb 82 p 2

[Article by Sanming Prefecture CCP Committee Secretary Deng Chao [6772 6389]: "Affirm the Rural Mainstream and Correctly Guide"]

[Excerpts] As a result of resolute implementation of the spirit of the Third Plenary Session of the 11th Party Central Committee and the steady elimination of "leftist" ideology, Sanming Prefecture's rural villages' total grain output for 1981 surpassed the all-time high; economic diversification increased tremendously; and commune and brigade enterprises continued to develop. The broad masses of peasants became even more enthusiastic about socialism and had full confidence in prospects for the four modernizations. Nevertheless, some new problems urgently in need of solution also appeared, foremost of which were the following: Some cadres and members of the masses mistakenly supposed that peasant household assumption of full responsibility for task completion meant "return to families of land and a division of the field for working individually," consequently dividing up the cultivated land and collective property on the basis of population. Some people did not want to assume any obligations or responsibilities whatsoever, and when it was time to sign contract agreements, they higgled and haggled or raised an unreasonable rumpus, refusing to sign or, having signed, refusing to implement. Some cadres and members of the masses mistakenly supposed that following peasant household assumption of full responsibility for task completion that "everything reverted to individuals for handling with no need for leaders," and they would not listen to proper guidance. Some production brigade and production team cadres did not dare work boldly; they cared only about their own individual production, and were unconcerned about the public welfare. Some state cadres even used the excuse of returning home to help their dependents a farm the land to absent themselves from their duty posts for long periods of time. In some places evil winds and noxious practices sprang up in smuggling, opportunism and profiteering, reckless felling of trees and denudation of forests, feudal superstitions, gathering together to gamble. and taking over good farmland for the building of houses. Some of these practices came into being under the leadership of grassroots organization leaders or with their tacit permission. The Prefecture CCP Committee felt that though these problems were confined to a minority of communes and brigades, and were problems of understanding for the most part, nevertheless, if allowed to spread, they would become unmanageable. In mid-November 1981, the Prefecture CCP Committee

decided that following the harvest, concentrated indoctrination on socialism and patriotism would be given the peasants. Prefecture leadership comrades went to the countryside to propagandize, and CCP committees in counties (or municipalities) and communes ran pilot projects. Two months of experiences have shown that all levels of the party organization have had some new understandings about conducting regular indoctrination and providing correct guidance for the broad masses of peasants.

(1)

One must firmly believe that the broad peasant masses want to take the socialist path under the leadership of the party.

In our prefecture, more than 90 percent of all production teams practice either peasant household assumption of full responsibility for task completion or the fixing of output quotas based on households as forms of production responsibility systems. We have demonstrated as a result of much investigation that it is the fetters of egalitarianism, excessive burdens, and resort to coercion and commandism, which have endured without solution for many years, that the broad masses of peasants want to free themselves from, but they still strongly demand that the party give correct guidance and develop socialist agriculture. This is the mainstream in rural villages. This fundamental estimate can find fresh reflection in the following several matters.

One is that results of last year's struggle against disaster were even better than had formerly been estimated. During the first half of 1981, a "June freeze" such as has rarely ever taken place occurred in our prefecture, and quite a few communes and brigades also sustained torrential rains and floods. Of particular note was the worst outbreak of rice blast since Liberation. Large areas of early rice were devastated, and it continued to spread to double cropped late rice fields and single crop late rice fields. Faced with a situation of such serious hardships, no flights of peasants from famine occurred in rural areas. Under the guidance of the party organization at all levels, the broad masses of peasants prepared to combat disaster, and many moving, real-life incidents occurred. Early crop losses in the prefecture amounted to 200 million jin, but after arduous struggle, defeat was finally turned into victory, and a heartening achievement of an increased grain output of somewhat more than 30 million jin for the year as a whole was won by the prefecture.

Another is the establishment and perfection of agricultural responsibility systems that are more healthy than had been originally forecast. This is a large-scale transformation that affects a myriad of households, the development of which has been extraordinarily rapid, yet major public property such as forest trees, water conservancy, and plow oxen have not been destructively damaged. Statistics show that in 1981 the mountain areas burned in the prefecture declined by almost half over the previous year; reckless felling of trees and denudation has rapidly taken a turn for the better; and an increase has occurred in the number of the prefecture's plow oxen. Particularly heartening is that the building of collective economically diversified bases

continues. Last year 200,000 mu of moso bamboo was restored throughout the prefecture. This was 2.8 times the originally planned 70,000 mu. The newly developed more than 40,000 mu mountain tea growing area also achieved the plan figure that had been set. In rural villages, an extremely small number of peasants thought of "liberalization" for a time, but repented very quickly after indoctrination.

Still another matter is procurement of agricultural products, which increased once we diligently turned our attention to it. By 23 December 1981, the prefecture had fulfilled its grain requisition purchase tasks, and throughout the prefecture appeared numerous households that sold more than 10,000 jin of grain. In Jianning County, after Li Guangdong's [2621 1684 2639] household had sold 40,000 jin of grain to the state, a tremendous upsurge of competition in contributions took place throughout the county, and households in the county that sold more than 10,000 jin of grain numbered 740. Formerly our prefecture's performance in the sale of live hogs was fairly poor, but once attention was directed to this following the autumn harvest, during the 2 months of November and December the state bought more than 50,000 head, which was 40 percent of the entire year's quota. Most counties including Jiangle, Taining, Mingqi, Jianning, and Ninghua overfulfilled their quotas. Throughout the prefecture, many individual peasant households sold the state three or more pigs.

(2)

It is necessary to boldly and assuredly propagandize the principle that for peasants to become rich, there can be no departure from socialism.

How can propagandizing the "four perseverances," "concern for the three" [the country, the collective and individuals], and the "two oppositions" be made easily understandable, vivid and concrete, achieve the purpose of stirring the minds of the peasants, and form social opinion? Throughout our prefecture, results obtained have been good from leadership comrades taking the lead in propadizing, who have used the methods of linking the propaganda to local realities and working along several lines at the same time. In concentrating experiences from everywhere, most important has been taking into account the following three matters: One is to take account of state support for agriculture. First the accounting for the prefecture and counties must be layed out. Since the Third Plenary Session of the 11th Party Central Committee in the 3-year period between 1979 and 1981, our prefecture's local financial organization has allocated a total of 32.68 million yuan for the support of rural construction, an average of 109 yuan per peasant household, and this has been related to the situation in individual communes and brigades.

The second is to take into account subsidies made by the state. Subsidies made by the state during 1981 for major losses in the prefecture for nitrogenous fertilizer, phosphate fertilizer, threshers, and diesel fuel have amounted to 7.48 million yuan, an average of 24 yuan per household. In addition there have been subsidies for rural electricity, rural salt, and rural pesticides. In propagandizing at individual places, talk was even more

concrete on how the phosphate fertilizer brought in by the government cost between 160 and 170 yuan per ton, but was sold to the peasants for only 140 yuan; how each threshing machine cost 83 yuan, but was sold to peasants for somewhat more than 40 yuan, and how each ton of diesel fuel cost 310 yuan, but was sold to the peasants for 195 yuan, etc.

The third matter is to take into account the reduction in prices of industrial goods and the increase in price of agricultural products. In addition to figuring the total bill, it was demonstrated that as a result of increases in prices paid for agricultural products, the peasants in the prefecture had increased earnings of more than 50 million yuan last year as compared with 1978. Even more instructive was to proceed from local realities using representative commodities to make a comparative accounting.

(3)

It is necessary to strengthen grassroots organizations and ro rely on them to steadily imbue peasants with socialist ideology.

Implementation of all the party's programs and policies, fulfillment of various work tasks, and intensification of ideological and political work all require reliance on rural grassroots organizations. As a result of our prefecture's resistance to disasters to win bumper harvests last year, improvements in production responsibility systems, and fulfillment of various work tasks, the party cadre ranks at the grassroots levels of our prefecture have combat strength, but it must also be realized that the workstyle of a minority of party members and cadres is itself not proper. Numerous grassroots organizations are loose-knit and weak. How can rural grassroots organizations, including the party organization, political organizations, and mass groups be strengthened? The knowledge gained through experience by various places in our prefecture is as follows:

1. A popular saying goes: "One village looks at another; one household looks at another; but the masses look at the cadres." Use of the party's style to spur on the people's style is exactly what Central Committee leadership comrades have been talking about recently. For rural social practices to make a decisive turn for the better, the key lies in rectification of party style. Simultaneously with the launching of indoctrination in socialism and patriotism in rural villages, the Prefecture CCP Committee and each county (or municipal) CCP committee directed attention to several major economic cases to uncover problems involving violation of the law and confusion of discipline, which were handled strictly in accordance with party discipline and the laws of the land, with positively no leniency shown. Improper conduct of a routine nature on the part of rural commune members and grassroots level cadres was mostly corrected by those involved as a result of criticism and self-criticism as part of indoctrination.

2. Evil practices and noxious influences must be obliterated. Most recently, each county (or municipal) CCP committee and commune CCP committee selected key points and pilot projects to find out how to put a stop to use of cultivated land for the building of houses, the felling of trees and denudation of

forests, assembling for gambling, feudal superstition, opportunism and profiteering, and such evil influences and noxious practices. Experience in pilot projects shows that if the attitude of leaders is resolute, the masses are fully aroused, and a fair, reasonable and legal popular consensus is worked out on the basis of national policies and ordinances and the pooled wisdom of the masses, and if this is carried out impartially, people being treated equally and without discrimination, large problems that have endured for a long time can be solved.

3. Energetic commendation of the advanced. Most recently, the counties (or municipalities) of the prefecture have convened a series of agricultural front commendation meetings that have singled out for commendation a large number of production brigade and team leaders, good party branch secretaries, and such cadres from units large and small.

4. Equitable remuneration for grassroots cadres. At the Prefecture CCP Committee Rural Work Conference held last October, we established a system whereby production brigade cadres are to receive fixed allowances, rewards, and punishments. Following the autumn harvest, all counties (or municipalities) devoted much attention to implementation of this system. Statistics from the four counties of Jianning, Taining, Qingliu, and Ninghua show that annual allowances for production brigade mainstay cadres (largely party branch secretaries, production brigade chiefs, and for finance and grain, barefoot doctors and farm technicians) required a total of 810,000 yuan, which has been paid. At the same time production brigade groups were reorganized and systems of personal responsibility established. Now an overwhelming majority of production brigade groups have taken over the economic and administrative functions for which they are responsible.

9432
CSO: 4007/275

SPRING PLANTING REPORTEDLY OFF TO GOOD START

Lanzhou GANSU RIBAO in Chinese 20 Mar 82 p 1

[Article: "Spring Planting Begins in One Place After Another in Gansu. This Year's Preparations For Plowing Fairly Solid; Both Cadres and Masses Strive to Win Good Harvest"]

[Text] Now that the period of the excited insects has passed [approximately 5 March] spring planting has begun in one place after another in Gansu Province. From the banks of the Bailong Jiang to the basin of the Shule He, and from the central region to the western corridor of the Huang He, the spirit of the masses of cadres and commune members has been aroused. They have begun early and acted quickly, and farming has been done solidly and painstakingly in the area already planted.

Statistics from units concerned show an area of more than 41 million mu in the province planned for the sowing of grain this year, 12 million mu of which is overwintering crops, which are now greening up; and 15 million mu of which is the fall ripening grain growing area, which is now being plowed. Right now myriad households are in process of laboring hard to complete the planting of 14 million mu of spring-sown summer ripening grain crops. This year's spring sowing is characterized in the following several ways: 1. Intensified planning of planting. In most places, commune members and production teams have already signed responsibility contracts or are now in process of signing them. 2. Last winter and this spring, the province had rather scant rain or snow and drought occurred in some places. However, before spring planting began, everywhere plowing and harrowing was done quite well. In Gaolan County, for example, 200,000 mu of sandy fields have been gone over three times. In Yuzhong County, the soil in 920,000 mu of the 1 million mu of fields for which planting has been planned has been turned once or twice. In riverland and irrigated areas, attention has been given to both irrigation and leveling of the fields. Recently some rain and snow has fallen, so the soil moisture situation everywhere is suitable for spring sowing. As a result of the increase in domestic livestock and poultry, both quantity and quality of farmyard manure is better than it has been for many years. All levels of supply and marketing units have promptly hauled to the countryside more than 273,500 tons of chemical fertilizer, which substantially satisfied needs for spring plowing and production. 4. In advance of planting this year, the enthusiasm of the broad masses of peasants for exchange of superior varieties

was very high. In Linxia Zhou, for example, in addition to transfers from areas of surplus to areas of shortage by commune members in mountain and flatland areas, within communes and brigades, and between one household and another, through which an exchange of more than 1.5 million jin of superior variety seeds was made, the zhou and county seed companies also brought in 500,000 jin of superior varieties of wheat, soybean, and corn seeds from Jilin and Shaanxi provinces, and from Lintao. All counties in the province also took active measures to help the masses make timely exchanges. 5. Before spring planting began, all jurisdictions dilligently took in hand the repair and maintenance of large and small farm implements. Acting in accordance with the various rural responsibility systems that have been instituted, agricultural banks and credit cooperatives at all levels went into communes and brigades so as not to lag behind the farming season to issue 85.26 million yuan in agricultural loans. This solved difficulties for some commune members in buying farm implements and having insufficient funds for other preparations for farming, and vigorously assisted spring plowing and production.

By way of fighting a good battle in this year's spring farming and to strive to make agricultural production better than last year, provincial organizations made early transfers of 180 cadres who were led by the directors of 18 departments and formed into 38 investigative work units for dispatch everywhere in the province to help the grassroots start work. All prefectures, counties, and communes also strengthened leadership of spring planting and production. In the course of spring planting, many agricultural technical cadres worked with the masses on plans for scientific farming.

9432
CSO: 4007/385

EFFORTS TO REMEDY SOME WATER CONSERVANCY PROBLEMS REVIEWED

Lanzhou GANSU RIBAO in Chinese 14 Mar 82 p 2

[Article by Yang Chongyi [2799 6850 0001]: "Heartening Achievements in Gansu's Water Conservancy Research Using Principally Applied Research Firmly Geared to Production"]

[Text] By firmly gearing to the needs of production and using most applied scientific research, Gansu Province water conservancy research has won heartening achievements. As of the end of the year, most prominent were the following: A concise zoning report was presented on the Huang He, the Chang Jiang, and internal waterways throughout the province; research on fluid control butterfly valves and corrosion-resistant and abrasion-resistant coatings for water pumps showed definite economic effectiveness; experiments had reached a certain stage of completion in the removal of turbidity from water stored in reservoirs, in preventing the heaving of water conduits, and with bitter water, some economic benefits having taken place. The ground water mainstay cadre observation network in the western part of the Huang He has been preliminarily built.

In the development of water conservancy endeavors, numerous real problems urgently in need of solution occurred to provide new topics for water conservancy research. Take the frost-upheaval of water conduits, for example. In the western corridor of the Huang He in Gansu Province, the climate is frigid and the soil freezes to a maximum depth of from 0.8 to 1.84 meters. Damage done through frost-upheaval to the brickwork beneath the irrigation conduits is substantial. Light damage has to be repaired annually, a great expenditure of manpower and material resources being necessary. Heavy damage impairs passage of water through the conduits, or the conduits have to be scrapped. In 1979 the provincial water conduit experimental research group to counter freezing began work on this problem, and after several years of on-site observations and experiments it won preliminary successes in mastering the mechanisms of frost-upheaval, of the relationship between frost-upheaval and the thickness of the cushioning layer, and of various forms of supporting brickwork and things to be on guard against. In its application to production, this saved the country funds, materials, and manpower.

Successful development of fluid control butterfly valves has been of crucial technical importance, both theoretically and from a practical standpoint, in solving problems with high life large volume flow, reverse pumping through long pipes by pumping stations, hydraulic boosting, and safe operation of crisis pumping stations for which the province conferred a citation third class for accomplishments in scientific research in 1980.

Experiments with removal of turbidity in reservoirs provided scientific experimental data for solving the province's problems in building reservoirs into which streams carrying large quantities of silt flow, and in the elimination of silt build-up. At the Dongxia Reservoir in Jingning County, where experimental research was conducted for 4 years, an accumulated total of more than 6 million cubic meters of silt was discharged from the reservoir, and more than 1.7 million cubic meters of ditch and reservoir capacity flushed out. This made possible a preliminary abundant sluicing from dwindling storage, no flooding of shorelands, and a balance between flushing and silting for many years to extend the life of the reservoir and achieve the objective of assuring irrigation while saving on construction investments.

The eight ground water observation tracts undertaken by the provincial Water Conservancy Department have begun to be built; a start has been made on dynamic analysis and resources appraisals; and the results of study of the three tracts at Wuwei, Xiaheqing, and Jinta have been applied to the zoning of water conservancy and readjustment of the distribution of pump wells begun locally to guide the build-up of production.

At the recently convened provincewide conference on water conservancy work, working from production realities in Gansu Province, water conservancy research workers layed out the research projects to be done. They resolutely mobilized all scientific and technical forces to strive, on the basis of realities in the building of production, to advance water conservancy research work in Gansu Province.

9432
CSO: 4007/385

AOLUO RAPESEED GROWING AREA ENLARGED

Lanzhou GANSU RIBAO in Chinese 16 Mar 82 p 1

[Article by Li Duanchong [7812 4551 1813]: "Linxia Hui Autonomous Zhou Continues to Extend Growing of Aoluo Rape. Area of Zhou Planted This Year Enlarged To More Than 10,000 Mu"]

[Text] The Linxia Hui Autonomous Zhou has taken action to continue increases in the growing of Aoluo rape. Plans call for an expansion to 30,000 mu of this year's Aoluo rape growing area. This amounts to about 30 percent of the area sown to oil-bearing crops, and a more than 12,000 mu expansion over last year.

Aoluo rape is characterized by high yields and a high oil content. At the end of 1978, the zhou seed company introduced 3,000 jin of Aoluo rape from Qinghai Province. After 3 consecutive years of experiments and demonstration planting at numerous sites in areas of different kinds, yield increases vastly greater than those from local varieties were obtained. Last year the area to which the cultivation of Aoluo rape was extended in the zhou amounted to more than 17,800 mu, which was 19 percent of the total area sown to oil-bearing crops, but output amounted to 32 percent of the total oil-bearing crop output. Last year oil-bearing crop yields per unit of area in the zhou increased by 12 jin over the bumper harvest year of 1980, and total output increased by 1.82 million jin.

After several years of experimental plantings, Aoluo rape has "found a home" in the Linxia area. This year plans call for an expansion to 30,000 mu of the Aoluo rape growing area in Linxia zhou. This will amount to about 30 percent of the total area sown to oil-bearing crops.

9432
CSO: 4007/385

INCREASED EARNINGS RESULTING FROM CHANGES IN CROP PATTERNS REPORTED

Lanzhou GANSU RIBAO in Chinese 28 Mar 82 p 2

[Article by Li Peiliang [2621 1014 0081], Secretary, Jianhu County CCP Committee, Jiangsu Province: "Production of Wealth to Bring About Prosperity Through Increased Grain Production"]

[Excerpts] How is it possible to steadily increase commune members' earnings while achieving steady increases in grain production? Lugou Commune in Jianhu County has answered this question. In 1981 this commune's earnings from industrial sideline occupations amounted to 8.6 percent of total earnings. This was eight percent lower than the average for the county as a whole, yet earnings distributions to commune members were the highest in the county, averaging 190 yuan per capita. What was the reason? In addition to improving soil fertility and perfecting the crop rotation system, they also readjusted the crop pattern for different varieties, expanding the wheat, glutinous rice and hybrid rice growing areas, thereby achieving increased output and increased earnings.

They realized as a result of experience that wheat will tolerate wetness to produce consistent yields, and that water-laced lowland areas lent themselves to increased growing of wheat. They, thereupon, expanded the wheat growing area while cutting back on the barley growing area. In the case of rice, they kept the hybrid rice growing area constant while expanding the glutinous rice growing area and continuing to grow conventional xian rice varieties. In 1981 the area planted to wheat was 60 percent of the area planted to wheat, barley and naked barley; hybrid rice accounted for 63 percent of the area planted to rice; and glutinous rice occupied 11 percent of the area planted to rice. They also mobilized commune members to grow wheat and glutinous rice on their private plots for self-sufficiency so that more of the wheat grown by the collective could be sold to the state. In that year alone, grain yields increased to 1,544 jin per unit of area, wheat and glutinous rice accounting for 52.4 percent of the total amount of grain sold, an amount almost double that of 1979.

The foregoing has discussed increases in output; now let us take a look at prices. In accordance with state procurement prices, wheat was purchased at 0.163 yuan per jin, which was 0.054 yuan higher than the price paid for barley. The price paid for procurement in excess of quota was 0.244 yuan,

which was 0.081 yuan higher than for barley. The price paid for glutinous rice was 0.046 yuan per jin higher than for conventional xian rice, and the price paid for procurement in excess of quota was 0.08 yuan higher. When the two factors of output and price were taken together, this commune's 1981 earnings from the sale of grain increased by more than 180,000 yuan as compared with 1979, and average per capita income increased by 46 yuan. As the masses said, "A change in varieties, and income has grown by one-half."

In addition to the aforementioned increase in economic benefits, the equitable readjustment of the distribution of varieties was characterized in the following several ways:

First, it helped put in place state grain production plans. The masses desired greater material benefits, and equitable readjustment of the distribution of crop varieties made commune members realize that economic benefits derived from producing grain were in no way less than from the growing of economic crops such as cotton.

Second, it helped provide the state with commodity grain of good quality and high economic value. Wheat and glutinous rice are both commodities for which both state and popular demand is very great. When more of these commodities provided the state, the state can reduce imports of grain while at the same time satisfying the needs of the people's livelihood.

Third, both wheat and glutinous rice make fine raw materials for processing into foodstuffs. Greater production of these grains means development of the food processing industry to satisfy market demand and increase their economic value.

9432
CSO: 4007/384

IMPORTANCE OF STURDY SEEDLINGS FOR BUMPER RICE HARVESTS STRESSED

Lanzhou GANSU RIBAO in Chinese 28 May 82 p 2

[Article by Ou Weizhong [2962 4850 0022] and Tao Ruhan [7118 3067 3352]: "Three Ways to Grow Sturdy Early Rice Seedlings"]

[Text] The vernal equinox has passed and spring has returned to the good earth. Early rice has already been sown in China's southern regions, and in the farflung rice growing areas of the Chang Jiang basin and the southwest, preparatory work for the growing of early rice crop seedlings is feverishly underway. Rice is China's principal grain crop and it is the early rice crop from which paddy rice yields per unit of area are fairly high and total output greatest. Consequently, a good job of early rice production holds major significance for assuring a bumper grain harvest for the year as a whole.

"When the seedlings are good, the rice will stand in the fields for half a year." Winning a bumper harvest from early rice this year requires, first of all the growing of sturdy seedlings. Long experience in production and the results of a large number of experiments attest that given the same conditions of growth and care, sturdy seedlings will produce yields of from several tens of jin to more than 100 jin per mu more than weak seedlings; ripening will take place from 3 to 5 days earlier; and savings in seeds and production costs can be effected. A rough calculation based on a low increase in yield shows that when seedlings are sturdy, increases in paddy yields for the year as a whole may amount to between 10 and 20 billion jin, and a saving of between 4 and 5 billion jin of seeds effected. A look at problems existing in seedling growing work right now shows that in this year's growing of sturdy seedlings, heavy emphasis should be placed on the following three things:

First close attention should be given to sparse sowing. This is fundamental in growing sturdy seedlings. Devoting too little land to seedling fields and sowing too many seeds on it remains a fairly common tendency. It is recommended that all jurisdictions vigorously promote Zhejiang Province's experiences with "one expansion and two decreases" (namely, expansion of the seedling field area, reduction of quantity of seeds sown in seedling fields, and reduction of quantity of seeds used in open fields in this year's propagation of rice seedlings, assuring that individual seedlings have an appropriate nutrient area, and that individual plants and plant colonies develop harmoniously.

Second, sowing should be done at the right time. This is a key measure in the prevention of seedling rot in the early rice crop. The main cause of early rice crop seedling rot is unwarranted stress on early sowing and early transplanting in a blind seeking after "earliness on top of earliness" with results that are just the opposite of expectations. How can one be sure of the right time for sowing? Many years experience everywhere suggests that once temperatures begin to rise in an area and stabilize at above 12°C, large scale sowing of early rice should be done. When heat insultation methods are used for the growing of seedlings, the sowing period may be advanced by about 10 days. In order to achieve sowing on time without seedling rot, communes and brigades in which economic conditions are fairly good should vigorously promote use of plastic mulch seedling propagation and some seedling propagation in hothouses.

Third is vigorous promotion of "many seedlings for a coherent whole." In a race against the season, in recent years many places have resorted primarily to a single planting of seedlings. New experience with a matching of "many seedlings for a coherent whole" with several plantings of seedlings permits the transplanting of young, tender, but sturdy seedlings in early crop fields, the transplanting of medium age seedlings in intermediate crop fields, and the transplanting of old, sturdy seedlings in late crop fields. This method permits making the most of advantages of various seedling propagation methods for the propagation of sturdy seedlings of proper age to meet crop rotation and variety requirements.

A good job of seedling growing requires establishment and perfection of a specialized seedling growing corps and designation of people responsible for care of seedling fields. Where conditions permit, seedling growing contract systems and seedling supply contract systems may be promoted. In the case of units practicing responsibility systems assigning responsibilities to households or teams, it is recommended that agricultural technique promotion units improve guidance given them on seedling growing techniques.

9432
CSO: 4007/384

ACTIONS TAKEN TO BOOST HOG RAISING

Lanzhou GANSU RIBAO in Chinese 26 Mar 82 p 2

[Article by Gong Shifeng [7255 0013 6912] and Qiao Wangtang [0829 2489 1016]: "Reversal of Declining Trend in Live Hog Production. Qingyang Prefecture Takes Positive Action"]

[Text] The Qingyang Prefecture Commercial Bureau and Prefectural Food Company have taken possitive action to reverse the trend toward decline in live hog production throughout the prefecture.

As of the end of 1980, live hogs in inventory in Qingyang Prefecture numbered slightly more than 507,600, an all-time high. However, since the last half of 1981, a gradual decline has taken place in the number of live hogs in inventory in the prefecture. By the end of the year, the number had fallen to slightly more than 460,000 of which sows in inventory numbered only slightly more than 24,300, a number vastly lower than the sows in inventory at the end of 1980. The number of stud boars was also seriously inadequate. In order to reverse the trend toward decline of live hog in inventory, Qingyang Prefecture took the following several actions: First it devoted serious attention to an increase in the number of stud boars and sows to assure ample breeding stock. All commune members who raised boars and sows received a certain amount of fodder from the collective. Food units annually provided some cash subsidy for stud boars raised by commune members. Right now peasant households in communes and brigades in Heshui, Ning and Zhenyuan counties are in process of either actively buying or keeping stud boards and sows. Second, prefecture and county units concerned have done a good job of investigation, study, and forecasting work, promptly solving problems in live hog production, procurement, allocation, and transportation. During the busy season in live hog procurement, no depreciation of quality in order to drive down prices paid or covertly gyping the masses is permitted. Third was improvement of species and promotion of the breeding of fine breeds. Prefecture and county food companies worked hard in the operation of fine breed farms, gradually making fine breeds out of local sows and bringing in from elsewhere fine breeds of boars and hybridized meat hogs. Fourth was solution to the problem of coarse fodder processing for hogs raised by commune members. All the grinding equipment owned by food units were all turned to processing jobs for agriculture. Fifth, all county food procurement stations raised one to three stud boars to solve the commune members problems in breeding sows. Some procurement stations also raised sows, actively providing shoats to the masses. After these actions had been taken, the enthusiasm of the masses of commune members in the prefecture for hog raising rose once again.

9432
CSO: 4007/384

PROVINCEWIDE SPRING AFFORESTATION CAMPAIGN REPORTED

Guangzhou NANFANG RIBAO in Chinese 3 Mar 82 p 1

[Article: "Surge of Afforestation in Cities and Countryside Throughout the Province. Seize Opportunity Provided by Spring Rains for the Greening of the Good Earth of Southern Guangdong"]

[Text] The cities and countryside in Guangdong Province have set off an upsurge in spring afforestation. As of mid-February, the province had raised more than 12,000 mu of saplings, a 43 percent increase over the same period in 1981. The area afforested amounted to more than 220,000 mu, a 67 percent increase over the same period in 1981. More than 3.7 million trees were also planted in the "four besides" [beside streams, roads, houses and villages], a tremendous increase over the same period last year.

Since last winter, accompanying gradual implementation of "three fixeds" in the province's forestry has been very high enthusiasm everywhere for afforestation. Many communes and brigades have devoted close attention to planning of forestlands, to preparing to plant seedlings, to making preparations for plowing and sowing and preparing the land for forestry, and going into the mountains to do afforestation following the lunar new year. The province's advanced unit in forestry, Jiaotan Production Brigade in Tangxi Commune, Fengshun County, has more than doubled its overfulfillment of afforestation plans for the entire year, each person planting an average of somewhat more than 120 trees. In Longchuan County, 90,000-odd commune member households planted 18,000 mu of trees on privately retained mountains.

Since the Provincial People's Government established the Greening Committee, 10 prefectures (or municipalities) and half the counties in the province have established greening committees. Statistics show that 370,000 people in the province are currently involved in a general obligatory tree planting campaign, and have planted more than 3 million trees in the afforestation of somewhat more than 1,500 mu. In Huiyang Prefecture, which acted most rapidly, more than 2.86 million obligatory trees have been planted, and the prefecture's Longshan County has already fulfilled its obligatory tree planting task. In Shaoguan Prefecture too, a total of more than 50,000 cadres in government organizations, staff and workers of plants and mines, and residents of streets have also gone out to plant more than 286,000 trees. Prefecture CCP Committee leaders led more than 1,000 government organization cadres, staff and workers, each one planting two or three trees.

Forestry units everywhere have actively helped communes, brigades and government units solve the problem of growing the saplings needed for afforestation, and they have buttressed technical leadership. All the communes and tree farms in Longmen County set up seedling nurseries to ready a sufficient number of saplings for spring afforestation. In addition to promptly supplying seedlings to each commune and brigade, forestry units in Yangshan and Shixing counties have organized forestry cadres and technicians to go to mountain region communes and brigades to help them do a good job of planning afforestation, to improve on-site technical guidance for afforestation, and to assure quality of afforestation.

9432
CSO: 4007/321

TWO HYBRID RICE VARIETIES PROPOSED FOR CENTRAL, EASTERN GUANGDONG

Guangzhou NANFANG RIBAO in Chinese 25 Feb 82 p 2

[Article by Li Shanfa [2621 0810 4099], Provincial Department of Agriculture: "Prospects for Development of Hybrid Rice in Province's Central and Eastern Prefectures"]

[Text] Since the beginning of experimental planting of hybrid rice in Guangdong in 1975 until 1978, the growing of hybrid rice has spread over an area of 2,854,000 mu. In 1979, the area declined to slightly more than 1.8 million mu; in 1980 it again exceeded 2 million mu, and in 1981, it broke the 5 million mu mark. Despite last year's substantial development, growing was concentrated largely in Shaoguan and Zhanjiang prefectures, while very little was grown in the central and eastern prefectures. Can wide area growing of hybrid rice be promoted in these prefectures, particularly in the Pearl River Delta and on the Chaozhou-Shantou Plain? This is an important topic meriting study. It was for this purpose that I did some investigation and study combined with analysis of results of experiments during the past several years. I believe that all that is needed is selection for use of fine hybrid combinations plus the use of commensurate cultivation techniques and hybrid rice will spread fairly rapidly in the central and eastern prefectures.

The hybrid rice combinations selected for use in Guangdong Province between 1976 and 1978 were mostly "Nanyou" and "Aiyou." These combinations possess definite heteroses, but their resistance is low, and their yields are high but inconsistent. After summarizing the lessons of experience, the province virtually eliminated "Nanyou" and "Aiyou" beginning in 1979, switching to "Shanyou No 2," "Weiyou Nos 3 and 6" and Shanyou No 6." Year by year the growing area increased, and results in increased yields were outstanding. For example, at Lianshan Commune in Zhenghai County on the Chaozhou-Shantou Plain, where "Shanyou No 2" has been promoted ever since 1977, by 1981 its growing area had expanded from 1,300 mu to 7,100 mu, and yields rose from an average 866 jin per mu to 1,057 jin per mu, an increase of 86 to 190 jin per mu over conventional varieties. In 1980 and 1981, the early crop created high production records of 1,515.4 and 1,620.6 jin per mu respectively. Last year, Buxin Brigade, Huangjiang Commune, in Dongguan County planted 75 mu of "Shanyou No 6" as a late crop, harvesting yields averaging 859 jin per mu, a 302 jin per mu increase over yields from the local conventional sitting autumn variety, Guang'er 104.

For both "Shanyou No 2" and "Shanyou No 6," plant height ranges from 85 to 95 millimeters; tillering is moderate to strong, color is good during the late stage of ripening; branches are green and stems waxy; each panicle produces between 120 and 130 grains; and the fruiting rate is between 78 and 80 percent. Grown as an early crop, the total growing period for "Shanyou No 2" is about 135 days. Grown as a late crop, "Shanyou No 6" requires about 115 days. Their main characteristics are as follows: (1) Possessing fine bumper harvest properties; plants grow vigorously; tillering is early and rapid; and chlorophyll content of leaves is high. (2) Resistances are high, and disease and insect pest infestations are fairly light. "Shanyou No 2" is a combination with high resistance to rice blast and bacterial blight; it is also resistant to leafhoppers. In addition, it is rather strongly adaptable to temperature and light. For "Shanyou No 6," when weather is overcast and chilly, not favoring flowering, spikelets delay flowering, their restraint lasting 1 or 2 days. (3) Adaptability is broad. They may be grown as both early and late crops on coastal plains, in hills and in mountain areas, or in sandy, clayey or black muddy soils, and they have fairly high potential. (4) They help in the accentuation of strengths and the playing down of weaknesses to make the most of advantages. According to briefings, after the "Shanyous" have been transplanted, tillering occurs between 22° and 29°C (centigrade used throughout), a direct proportional relationship existing between speed of tillering and temperatures. For the early crop, temperatures in central and eastern prefectures between Qingming [around 5 April] and the Grain Rains [around 20 April] are between 21.7 and 25.5°. For the late crop, around the time of Autumn Begins [around 7 August], temperatures are between 27.8 and 28.4°. Therefore, either as an early or a late crop, most places have suitable temperature conditions for tillering.

The "cold dew wind" is the most damaging kind of weather for the late crop, and it poses a great threat to late crop output. According to meteorological data for the central and eastern prefectures, for an 80 percent rate of assurance the period of full heading should come before 5 October. So long as we arrange for the full heading period to be before 30 September, consistently high yields can be harvested a substantial amount of the time. Additionally, during the late stages of the late crop, night and day temperature variations are great, which is very beneficial for coming into milk, for fruiting and for increasing rice grain weight. Therefore, so long as the central and eastern areas properly arrange the combinations, using "Shanyou No 2" for the early crop, planting it in late February for heading and flowering in mid-June, full use can be made of light and temperature conditions at the time to avoid the cloudy and overcast days of the "dragon boat rains" [of June]. For the late crop, "Shanyou No 6" should be used, sowing done during the first 10 days of July for transplanting at the end of July or early August, and full heading taking place in mid-September to completely avoid the "cold dew winds." This will play a very great role in changing the situation of low and inconsistent yields from the late crop.

9432
CSO: 4007/321

MAJOR IMPROVEMENTS IN FARMLANDS REPORTEDLY UNDERWAY

Guangzhou NANFANG RIBAO in Chinese 25 Feb 82 p 1

[Article: "Guangdong Province's Mountain Region Communes Start an Upsurge in Restructuring of Low Yield Fields. Increase Grain Yields Per Unit of Area and Develop Mountain Region Economy"]

[Text] Last winter and this spring, more than 450 communes in Guangdong Province have set off an upsurge in agricultural capital construction centering around the restructuring of low yield fields. According to most recent statistics, 570,000 mu of low yield fields have already been restructured, with the movement of 8.33 million cubic meters of earth and stone.

Since 1979, rural villages everywhere in the province have comprehensively tackled water, soil and fertility in the restructuring of more than 2.8 million mu of low yield fields. This plus other scientific farming measures has brought about tremendous increases in grain production from these fields. Yields per mu per year have thereby increases almost 100 jin at the minimum and between 200 and 300 jin at the maximum. Now the focus of restructuring of low yield fields has shifted away from the plains and hilly areas to mountain regions where it is being carried out on the basis of universal practice of responsibility systems whereby responsibilities are assigned on a large scale. Consequently all levels of party CCP committees have strengthened leadership for this work, and have concentrated financial and material resources on the restructuring of low yield fields in key communes and brigades. They have also sent large groups of cadres to help out in the countryside, thereby turning the restructuring of low yield fields into a conscious mass movement. In Meixian Prefecture, key communes for the restructuring of low yield fields generally have from five to seven cadres specially in charge of this work. Zhaoqing Prefecture sent more than 600 commune cadres and more than 400 agricultural science personnel to give on-the-ground technical guidance.

While restructuring low yield fields, all jurisdictions devoted attention to the adaptation of general methods to local situations, to comprehensively tackling problems, to doing tailored restructuring, both paying attention to changes in low yield field production conditions and paying attention to a combination of harnessing mountains and slopes to improve the ecological environment, assuring project quality, and improving economic benefits. At the same time all jurisdictions were sure to follow the principle of acting in accordance with capabilities,

doing everything within their power, "the people acting with public support" and following a policy of voluntary participation and mutual benefit to arouse mass enthusiasm for restructuring of low yield fields. Since last winter, funds provided by communes and brigades throughout the province have totaled more than 12.6 million yuan, or 53 percent of project expenses. Foshan Prefecture allocated 3.45 million yuan of local public funds to support peasant restructuring of low yield fields. Subsequently, each county in the prefecture disbursed 1.08 million yuan of local public funds for restructuring of low yield fields. These allocations, plus 3.87 million provided by communes and brigades themselves, have meant fairly good solution of need for funds to restructure low yield fields.

9432
CSO: 4007/321

FOSHAN PREFECTURE EMPLOYS ADMINISTRATIVE, TECHNICAL MEANS TO INCREASE OUTPUT

Guangzhou NANFANG RIBAO in Chinese 18 Feb 82 p 1

[Article by Reporter Tao Guangyuan [7118 0342 0337] and Correspondent Mian Hao [0517 3185]: "Foshan Prefecture CCP Committee Adopts Five Measures to Do a Good Job of Grain Production. Stabilizes Existing Grain Area and Actively Develops Economic Diversification"]

[Text] At a recently convened meeting of county and municipal CCP committee secretaries, comrades in charge of the Foshan Prefecture CCP Committee noted that, "It is currently necessary to strengthen national concepts, overall situation concepts and planning concepts, carry out an all-around production program of 'positively no slackening of grain production while actively launching economic diversification,' and adopting energetic measures to do a good job of spring farming and production."

Since the 3rd Plenary Session [of the 11th Party Central Committee], uncer the guidance of the state plan, Foshan Prefecture has adapted general methods to local situations in the readjustment of its agricultural production patterns, and has changed the former rather unitary economic structure for substantial development of economic diversification and of commune and brigade industrial sideline occupations. The Prefecture CCP Committee believes that the past several years' readjustment of the prefecture's agricultural production patterns has been very necessary, that steps have been measured and results outstanding. A look at the present situation shows the broad masses giving extraordinary attention to development of the livestock industry, the fishing industry, to cane sugar, oil-bearing crops, fruit production, commune and brigade enterprises, and household sideline occupations. Such enthusiasm is very precious and should be given support and protection as well as practical guidance and help. However, among some cadres and the masses an actual tendency to ignore grain production exists. Zeal for development of economic crops and engaging in industrial sideline occupations is great, while zeal for grain production is not as great. Some even care nothing for state plans, taking it upon themselves to make major reductions in the grain growing area in a change to the growing of other crops. In order to assure fulfillment of grain and other production tasks handed down by the state this year, timely ideological education of the broad masses of cadres and people must

be carried out to help them firmly establish a national concept, an overall situation concept, and a plan concept and to consciously take grain production firmly in hand. For this purpose, the Prefecture CCP Committee proposed attention to the following several measures:

1. Wide publicity to the carrying out of ideological arousal, with much playing up of the importance of grain production. Everyone should come to understand that Foshan Prefecture is a major commodity grain base in the province, and that providing the state with sufficient commodity grain is a duty to which we should bend every effort, and that this is also necessary for stabilization of the overall situation. We should not only calculate that the price paid for growing grain is not as high as for other crops, or that income from the investment of labor in grain production is not as great as from doing industrial sideline work; rather we should conscientiously calculate that only by doing a good job of grain production is it possible to develop industrial sideline occupations without nagging worries about food, and only then is it possible to have larger amounts of livestock feed for development of a collective and household livestock raising industry, and a breeding industry, and only then can the already readjusted agricultural production pattern be placed in an invincible position. Additionally, cadres and the masses should be made to understand that China today is still not prepared entirely to use prices to regulate production conditions. Producers in our socialist country cannot rely solely on laws of value to engage in production. Were each trade and industry to function according to amount paid, the state plan would be thrown into turmoil to the serious impairment of our production and our lives. Therefore, all places that lend themselves to the growing of grain must take cognizance of the overall situation, care about the general interest, and grow grain crops in accordance with state plans.

2. Strengthening of plan guidance and stabilization of existing grain growing area. There is need for active promotion of economic contracts and the use of economic contracts and such methods to dovetail state plans with collective and individual commune member production activities, so that state plans will be implemented in every production unit. The paddy rice growing area throughout the prefecture must be stabilized at between 4.4 million and 4.5 million mu so that a fairly reliable foundation will exist for increase in the prefecture's total grain output.

3. Use of various kinds of economic methods to arouse peasant enthusiasm for grain production. Preparations for farming and spring farming must both be combined with further advances and improvements in various forms of production responsibility systems, the peasants thereby deriving material benefits from the contracting of grain production. There must be further promotion everywhere of the use of the methods of using industrial sideline occupation profits to subsidize agriculture, and use of economic crops profits to subsidize grain production to stimulate grain production.

4. Widespread promotion of hybrid rice, use of mixed nitrogenous, phosphate and potash fertilizers and such advanced agricultural techniques in an effort to increase yields per unit of area. Energetic advocacy of the agricultural science

and technology contracts system promoted in Guizhou Commune, Shunde County, and the popularization of agricultural science and technology so that agricultural research results will be rapidly transformed into productivity. Advocacy that all levels of leadership go down into the grassroots to launch scientific experiments and to arouse youths, militia and women to large-scale cultivation of experimental fields and high yield fields.

5. Mobilization of all trades and industries to assist agriculture and support grain production.

9432
CSO: 4007/321

RUBBER DEVELOPMENT, OUTPUT REVIEWED

Guangzhou NANFANG RIBAO in Chinese 17 Feb 82 p 1

[Article: "Substantial Development of Commune and Brigade Rubber in the Province. Last Year's Output of 8,000 Tons of Dry Rubber, Plus State Farm Output Brought Province's Total Output to More than 100,000 Tons"]

[Text] Substantial development has taken place in the growing of rubber by the province's communes and brigades. The province's commune and brigade rubber growing area now stands at 1 million mu, with slashing being done on 270,000 mu. In 1981, dry rubber output was 8,000 tons, more than doubling the 1976 output. This plus state farm output meant that the province's total output of dry rubber broke the 100,000 ton mark in a year that saw unprecedented development of rubber.

In some communes and brigades along the seacoast of continental Guangdong and on Hainan Island, the climate is mild and rains copious, suiting them to the development of rubber production. As a result of the former influence of "leftist" ideology, production teams were permitted to grow grain only, and were not allowed to develop rubber. As of 1976, the province's commune and brigade rubber output was still less than 4,000 tons. Following the 3rd Plenary Session of the 11th Party Central Committee, while doing a good job of grain production, numerous communes and brigades allocated workforces and put out the funds for development of rubber production. On Hainan Island, most communes in every county grow rubber. Along the continental seacoast, some communes and brigades have also cultivated new rubber varieties that stand up to the wind, tolerate coldness and are suitable for growing locally, and have started up rubber plantations. Today communes and brigades in 38 counties grow rubber.

Everywhere state farms have actively assisted communes and brigades in the development of rubber production. This has both solved commune and brigade difficulties with insufficient funds, and has solved a conflict in production between the state farms and communes, both state farm and commune and brigade rubber production achieving common development thereby. As a result of the development of rubber production and of other economic diversification endeavors, many rural communes and brigades have changed their unitary economic structure, have strengthened the collective economy, and commune member distributions have become increasingly high.

Shiwu Production Brigade on Hainan Island grows somewhat more than 5,680 mu of rubber, producing more than 200 tons of dry rubber annually for earnings of more than 1.1 million yuan. Its earnings from rubber account for 72 percent of the brigade's gross income. During the past several years they have produced 1,900 tons of dry rubber for the country, paying 240,000 yuan in rubber revenues. In addition, the brigade has accumulated more than 5 million yuan of public accumulation funds and public welfare funds.

9432
CSO: 4007/321

BRIEFS

RURAL SAVINGS UP--Rural savings deposits in Guangdong Province this year continued to demonstrate a tendency toward tremendous increases. As of the end of January, rural savings deposits in the province totaled more than 2.76 billion yuan, which averages out to savings deposits of 57.40 yuan per capita of the agricultural population. In January of this year alone, savings deposits increased at an average 5.20 yuan per capita. This shows that the province's rural economy is booming, and that the living standards of the broad masses of peasants are steadily rising. [Text] [Guangzhou NANFANG RIBAO in Chinese 19 Feb 82 p 1] 9432

CSO: 4007/321

DEVELOPMENT OF FORESTRY SAID STRATEGIC STEP TO BUILD UP FLATLAND

Shijiazhuang HEBEI RIBAO in Chinese 5 Feb 82 p 2

[Article by Zheng Zhaoxiang [6774 0340 4381], Jiao Zhigeng [3542 1807 5087], and Cao Peng [2580 7720]: "Developing Forestry Is a Strategic Measure To Build Up the Flatland"]

[Text] Readjusting the policy of economic buildup must be based on the period required to realize economic gain so that visible economic results can be achieved within a relatively short period. At the same time, we must start out from long-range ecological effects in our efforts to restore the natural ecological environment which has been destroyed and we must put efforts to further cultivate and protect resources in first place. Therefore, planting trees and forestation in a big way and developing forestry production are strategic measures to build up the flatlands.

Zhangbei County in the flatlands had little forest land at the beginning of the founding of the nation, but vegetation of the meadows was good. In 1949, 2.87 million mu of grassland were recorded and permanent vegetation constituted 57 percent. The coverage of vegetation was good and the ecological environment was stable. After the arrival of the 1960's, massive reclamation and planting destroyed the vegetation and caused environmental factors to change. One was the frequent damage by wind and sand. Comparison of the 1950's and the 1970's shows that the annual average wind speed increased 0.8 meter/second. The average number of days of strong wind increased 36.8 days. The number of days of sandstorms increased by 3.4 days. The area of wind erosion throughout the county covered about 610,000 mu. From April to May of 1972, strong winds about 7 on the scale blew for 27 days. Farm crops of more than 500,000 mu throughout the county were damaged and 150,000 mu of land were forced into destruction. The second was the worsening of drought. During the 25 years from 1956 to 1980, drought occurred in 21 years and major drought occurred in 2 years, indeed 9 years of drought out of every 10. The third was soil erosion. Because the slopes were overly reclaimed, the area of soil erosion throughout the county has already reached more than 2.2 million mu. Each year, more than 960,000 mu of soil are eroded. Especially in recent years, floods due to a rush of mountain water have gradually increased. In 1979, 119,000 mu of farmland of 94 brigades belonging to 10 communes in the mountain areas were covered by sand washed away by water. Detrimental changes due to ecological imbalance cannot be remedied by man. Facts show that adjusting the internal structure of agriculture must start from restoring and retaining the ecological balance and from planting trees and forestation in a big way.

Forestry production is an important component of the natural economy of the flatland. Since founding of the nation, the area preserved by artificial forestation in Zhangbei County has reached 615,900 mu. Even though the present level of forestation is relatively low, the total reserve of forests has reached 183,000 cubic meters. Each person has half a cubic meter of forest wood throughout the county. Analytic calculations of tree trunks show that each year, the growth rate of the reserves of forest wood is over 20,000 cubic meters and the value of natural growth is about 4 million yuan.

In addition, there is an extreme shortage of energy for living in the farm villages on the flatland, and firewood is still a difficult and lingering problem. For example, many farm families in the farm villages of Zhangbei County basically rely on stalks of crops and manure of cattle and horses. At present, this county has forested more than 60,000 mu. According to plans, by 1985, each family will have an average of 3 mu of firewood forest land and the problem of firewood for farmers will be basically solved.

To quickly restore the ecological balance in the flatlands, forestry production must be rationally distributed. The foremost purpose of foresting the flatland should be the protection of gain, and the pursuance of economic gain should be second. Accordingly, in the distribution of forestry production, the retention of soil should be the main effort in the mountain regions and breaking the wind should be the main effort in the plan. In the plains, forestation of the river systems should be developed in a big way. Land of the "four sides" should be planted well. The gaps should be filled so that a whole system of effective protection that is connected by expanses, networks and strips can be formed within a short period. In the mountain regions and hilly regions, forests that retain water and soil should be greatly developed. The area of coverage should be actively increased. Damage to mountain areas and after-effects detrimental to the plains should be overcome.

9296
CSO: 4007/245

STABILIZATION OF GRAINFIELD AREAS SOUGHT

Shijiazhuang HEBEI RIBAO in Chinese 6 Apr 82 p 1

[Article: "Take Action to Stabilize Grainfield Area to Assure Increased Grain Output. Provincial Government Approves and Sends to Provincial Bureau of Agriculture 'Report on Stabilization of Grainfield Areas to Assure Increased Grain Output,' Requiring all Prefectures, Municipalities, and Counties to Take Each of the Actions Contained in the Report"]

[Text] Recently the Provincial People's Government approved and passed on to the Provincial Bureau of Agriculture the "Report on Stabilization of Grainfield Areas to Assure Increased Grain Output," which requires all prefectures, municipalities, and counties, on the basis of local situations, to diligently study and conscientiously carry out the various actions contained in the report for assuring this year's grainfield area and increases in grain production.

A provincial government memorandum requires each jurisdiction to diligently put into effect a program of "positively no relaxation of grain production while actively launching economic diversification," and "taking the planned economy as primary and regulation by market mechanism as secondary" in all-around fulfillment of this year's planting plans for grain, cotton, oil-bearing crops, and other economic crops. The growing area for grain grows is to be stabilized and main attacks directed against yields per unit of area to assure fulfillment of plans for a grain output totaling 33 billion jin. Right now it is necessary to give attention to "one resistance and double guarantees," first of all winning a fine summer harvest while at the same time doing a good job of spring sowing to win another all-time high in autumn grain output.

The Provincial Bureau of Agriculture report said that since the Third Plenary Session [of the 11th Party Central Committee], all of the province's jurisdictions have diligently carried out a program of "positively no relaxation in grain production while actively launching economic diversification." They have gradually readjusted agricultural crop patterns and have continued to reap rather good harvests despite the unfavorable conditions of 3 consecutive years of drought. A comparison of 1981 with 1978 shows a downward readjustment of the grain growing area from 76.6 million mu to 73.5 million mu, a decrease of somewhat more than 3 million mu. However, total output has continued at 31.5 billion jin. The year 1981 was the third all-time high year, only the great bumper harvest years of 1978 and 1979 being better. From a cottonfield area

of 8 million mu, output totaled 450 million jin, a 92 percent increase. Ginned cotton yields averaged 56 jin per mu, making 1981 the fourth highest year for production. The oil-bearing crop area was increased to 7.42 million mu, an expansion of 2.9 million mu. Output totaled 928 million jin, an 89 percent increase for an all-time high. Other economic crops and economic diversification showed varying degrees of increase. This year, in accordance with the principle of "adaptation of general methods to local situation to make the most of advantages," plans call for expansion of the province's cottonfields to 11 million mu, a 3 million mu increase over last year. Smaller increases are also planned for other economic crops. Calculations on the basis of the agricultural production plan handed down by the province show an additional somewhat more than 70 million mu as the province's grainfield area. This plan is a suitable one and is to be guaranteed fulfillment.

The notice pointed out that a problem currently deserving of attention is that in some places a tendency toward paying no attention to state plans, blindingly expanding the growing of economic crops, and reducing the grainfield area has appeared. This year all jurisdictions have reported assignment to production teams of an area of 11.23 million mu for the growing of cotton in the province. Jurisdictions have reported the growing of 7.62 million mu of oil-bearing crops when plans call for the growing of 7.45 million mu. The actual acreages are even larger. In some counties, communes, and brigades, the area planted to economic crops such as cotton and oil-bearing crops exceeds by 20 to 30 percent plans handed down by the state. As a result of their growing of diverse economic crops, some places want to rely on the state to bring in grain from elsewhere, and some plan on increasing their earnings through development of economic crops and buy grain in markets. Such thinking is wrong and dangerous; it can cause hardships for the country and the people. Ours is a large province with a population of more than 50 million, which has to be self-sufficient in grain. The province's circumstances require that in order to assure consistent increases in total grain output, it is necessary both to increase yields per unit of area and to maintain a certain grainfield acreage. This year's plan calls for a grainfield area for the province that is 6 million-odd mu less than in 1979. If the economic crop growing area is blindly expanded further, the province's 70 million mu of grainfields cannot be guaranteed. All levels of leadership should arouse a high degree of serious attention to this problem and stabilize the grainfield area above 70 million mu to assure increases in grain output.

In order to realize a planned total output of 33 billion jin of grain for the province this year, the report requires that all jurisdictions should proceed from a foundation of perfecting production systems of responsibility and arousal of mass enthusiasm to give diligent attention to the following points:

1. Diligent implementation of a program of "positively no slackening of grain production while launching economic diversification," and "taking the planned economy as primary and regulation by market mechanism as secondary" to intensify planting in accordance with state plan, arranging at the same time for grain crops and economic crops. This year the grainfield area for the province as a whole cannot be less than 70 million mu. The cottonfield area is to be 11 million mu, and the oil-bearing crop area is to be 7.45 million mu, and planting

should be done according to plan in sufficient quantity and quality. Every effort should be made to use idle land for the growing of some non-staple economic crops. All jurisdictions are to centrally program the area to be sown to grain, cotton, oil-bearing crops, and other economic crops in accordance with state plans that have been handed down. The broad masses of cadres and people are to be indoctrinated in establishment of plan concepts and concepts of the situation as a whole, taking into consideration the welfare of the country, the collective, and individuals. Guided by the state plan, there should be an equitable distribution of grain crops and economic crops, one advancing the other in coordinated development to gain better economic benefits.

2. Diligent implementation of the assignment of sole responsibility for state grain tasks, the signing of economic contracts being taken firmly in hand. Beginning this year, Hebei Province will use the method of assumption of sole responsibility for grain requisition procurement, sales, allocation and transportation, so all jurisdictions are to use the signing of economic agreements as a means of implementing level by level the assumption of sole responsibility for grain quotas. So long as fulfillment of sole responsibility grain quotas can be assured, equitable provisions for this year's planting plans can be made that both guarantee fulfillment of state plans, respect production team self-determination, and bring more into play the enthusiasm for production of the broad masses of commune members.

3. Simultaneous with the stabilization of growing areas, efforts are to be made to increase yields per unit of area. It is necessary, first of all, to win a good summer harvest. All jurisdictions are to strengthen leadership and launch a principal attack on yields per unit of area in an effort to achieve a summer grain output that matches or exceeds last year's. In addition, attention is to be directed to combat drought to do spring planting to assure autumn grain production. Arrangements for autumn grain crops should help increase yields per unit of area and increase total output. Hill drylands should grow more millet and sweet potatoes, and low-lying areas should grow more gaoliang. Corn output accounts for half the fall grain. Except for places not suitable for the growing of corn, there should be no excessive reduction in corn acreage. Every effort should be made to encourage the intercropping of pulses with corn and gaoliang. Ability to stand up against disasters and assure outputs can be increased through equitable crop patterns. The masses should be stirred to make full use of idle land to try to grow more grain. All jurisdictions should focus on "one resistance and double assurances" to do a good job of technical promotion work. They should organize large groups of technical personnel to go down to the grassroots to help improve work and gain firsthand experience, actively sign technical promotion contracts linked to output, and begin technical teaching in order to raise the scientific farming levels of the broad masses and promote increased output of grain this year.

9431
CSO:4007/389

NEED TO GUARD GRAINFIELDS FROM FURTHER ACREAGE REDUCTIONS STRESSED

Shijiazhuang HEBEI RIBAO in Chinese 2 Apr 82 p 2

[Article by Lu Shuangcai [6424 7175 2008] and Yang Zingfa [2799 5281 4009]: "Hebei Province's Grain Acreage Should Be Stabilized"]

[Text] In the process of readjusting agricultural crop patterns since the Third Plenary Session [of the 11th Party Central Committee], Hebei Province has corrected the mistaken past method of "taking grain as the key link and cutting everything bare," crop patterns for grain cotton, edible-oil and other economic crops tending toward equitability. A problem that merits attention now is the tendency toward great decline in the grainfield area. This problem must arouse a high degree of serious attention on the part of leaders at all levels to take effective action to stabilize the grainfield area in Hebei Province.

As a result of the institution of various forms of production responsibility systems during the past 2 years, the enthusiasm for production of commune members has been aroused, and the grain situation in Hebei Province has taken a turn for the better. But life is still hard. The province has a population of more than 50 million, so getting enough to eat is a matter of primary importance. Since the founding of the People's Republic, grain production has seen fairly great development; however, it is still far from ample. During the 29-year period between 1953 and 1981, only 4 years produced a grain surplus; in the other 25 years there was shortage during which more than 27.6 billion jin of state-transported grain was consumed. Looked at in terms of average amount per capita, in 1979 each person had 619 jin of grain, an all-time high; yet this was lower by 69 jin than the national average. During the last 2 years, average per capita grain consumption has not increased. In 1980, it was slightly more than 500 jin; in 1981, it was 605 jin. At the same time, the province's production has not been consistent. In bumper years, the situation is a little better, but a lean year means reduced grain output, and use of grain by everyone becomes a little tighter. Consequently, it is absolutely impossible to relax grain production.

Quite a few comrades suppose that once the grain field acreage has been reduced, total output can be assured by increasing yields per unit of area. We acknowledge that this method can solve some problems and that the future orientation has to be a concerted attack on per unit yields. However, under

present conditions, a sudden very great increase in yields per unit of area is also not realistic. During the past several years, grain yields in Hebei Province have been in general somewhat more than 400 jin per mu. In 1978 and 1979 when yields per mu were highest, they were 440 jin and 474 jin respectively. This year's planned total grain output is 33 billion jin. Figuring a grainfield area of 70 million mu, that means yields per mu will have to reach somewhat more than 470 jin if the plan is to be realized. If the acreage is less than 70 million mu, then the yields per mu will have to be somewhat higher. In 1979 both the summer and the autumn harvest were bumper ones with high average yields per mu. This year's task of getting somewhat more than 470 jin per mu yields of grain will be an arduous one. That is because this year's wheat acreage is 4.6 million mu less than the previous one, and again there is protracted drought with no rain. Beginning this year, the Central Committee has instituted the assumption of sole responsibility by Hebei Province for grain allocations, guaranteed to remain unchanged for a 3-year period. Therefore, we must stabilize the grain acreage and use every available means to make a main attack on yields per unit of area in an effort to fulfill this year's increased grain production plan.

Readjustment of agricultural crop patterns will be limited by grain. Formerly the province onesidedly stressed taking grain as the key link to the detriment of economic crops. High yield poor brigades came into being, and in some places not only were grain crops elbowed aside, but no increase in grain output occurred either. In recent years, as a result of readjustment of agricultural crop patterns, the cotton acreage has increased from 1978's 8 million mu to this year's planned 11 million mu. The edible-oil growing area has increased from 4.5 million mu to 7 million mu, and the acreage for other economic crops has also increased. If the grainfield development of economic diversification occurs to the detriment of grain, and this will also create an imbalance in agricultural crop patterns. If total grain output declines, economic crops will not be able to go up either. Therefore, in readjusting agricultural crop patterns, it is certainly necessary to consider this premise, and it is necessary to be restricted by grain.

Ours is a socialist country in which the entire national economy is predominantly a planned economy, regulation by market mechanism being secondary. Agricultural production is no exception. Following the institution of various forms of production responsibility systems in agriculture, it continues to be a collective economy founded on the public ownership of the basic means of production such as land. In drawing up production plans, the guidance and restraints of state plans must be accepted. Therefore, when formulating planting plans implementation of state grain production plans must be assured as must the fulfillment of tasks in assumption of sole responsibility for requisition grain procurement. There can be no planting as one pleases. Only by assuring a certain grainfield acreage will it be possible to assure steady increase in total grain output, the entire national economy thereby having planned, proportional, and coordinated development.

9432
CSO: 4007/369

PIG RAISING ON RISE IN SOME COUNTIES

Shen County

Shijiazhuang HEBEI RIBAO in Chinese 29 Jan 82 p 1

[Article by Duan Zhencang [3009 2182 5547], Kang Bingqiang [1660 3521 1730], Pang Fusen [1690 4395 2773]: "Grasping Well the Demonstration Families Led Thousand Families and Ten Thousand Families, the Number of Hogs Raised in Shen County Rose Month By Month"]

[Text] Shen County started out from the new situation after popular implementation of the production responsibility system in farm villages, carried out the method of grasping well the "demonstration families" to lead the broad masses and encouraged commune members to raise hogs.

After the broad number of farm villages in Shen County popularly implemented the various forms of the production responsibility system, and under the effect of past years when submitting hogs was difficult, the number of hogs raised by the collective production teams decline. Some commune member families paid more attention to family planting under the prerequisite of planting the fields they were responsible for well, and raising hogs by the families suffered to a definite degree. To solve these problems, the county committee, the county people's government and the livestock production department established "demonstration families" and assigned them to cadres according to districts. And beginning from last year, cadres were assigned the responsibility of overseeing such families to develop hog raising and to promote hog raising by the many families in the country. Hog raising by commune members thus developed again. The actual method was first to establish the 86 commune member families who raised and submitted more than 5 fattened hogs a year or who raised more than two head of sows a year as hog raising demonstration families. Over 40 technical cadres of the county livestock bureau and 35 commune veterinary stations took charge of these demonstration families separately and actively popularized scientific formulas for feed, prevented and controlled diseases in time, and truly guaranteed healthy growth of the hogs. This enabled the hog raising demonstration families of the whole county to exert a profound influence upon the masses and more than 10,000 commune member families began actively raising hogs again. The number of hogs in the whole county thus increased month after month. Statistics up to the end of last year showed that during the whole year, the number of hogs raised

reached over 199,700 head, an average of 1.8 head per family and approaching the highest level in the past. More than 93,000 hogs were released from the pens, an increase of 2,024 head over the previous year. Up to the present, the whole county has more than 100,000 head of hogs in pens.

Zunhua County

Shijiazhuang HEBEI RIBAO in Chinese 4 Feb 82 p 1

[Article by Xu Fengci [1776 7685 3069], Ren Youdou [0117 2589 2435], Cui Haifang [1508 3189 2387], and Wang Shouben [3769 1343 2609]: "Adapting to the New Situation Created by the Production Responsibility System, Adjusting the Method of Reward for Raising Hogs, the Number of Hogs in Zunhua County Continues To Increase"]

[Text] The Zunhua County Committee conscientiously analyzed the reasons for the drop in the number of domesticated hogs and actively adjusted the method of rewards for raising hogs. These efforts have rapidly changed the decline in the number of hogs raised and have increased the number. At the end of last year, there were 280,000 hogs in pens throughout the county, and increase of 20,000 over the number at the end of 1980. Each family raised an average of 2.3 pigs.

At the beginning of last year, the county committee discovered that the number of hogs raised throughout the county dropped. The number of fattened hogs shipped out from the whole county dropped by 9 percent from the same period the year before last. Some localities suffered a drain of their breed hogs. The number of sows also declined by more than 500 from the middle of the previous year. They analyzed the causes of the decline in the number of hogs raised. One reason was the decline in the amount of feed rewarded to hog raising. In the past, for each hog raised by commune members, the state and the collective generally rewarded over 400 jin of feed. Now, some commune brigades only receive about 300 jin. This raised the cost of raising one hog by 3 to 5 yuan. The second reason was that the number of work points rewarded by the collective for hog raising and the number of work points rewarded for manure fertilizer declines. In the past, for each hog raised by commune members, they received about 1,000 work points a year. If we calculate on the basis of 5 jiao per work point, cancelling the work points would reduce the income per hog by about 50 yuan. According to surveys, after implementing the production responsibility system, 554 production teams of the more than 3,400 throughout the country received less work points for raising hogs and for providing manure fertilizer, and rewards of food grains for raising hogs were cancelled for 958 production teams. In this way, the cost of hog raising increased, income dropped and commune members could not benefit. The enthusiasm for hog raising suffered a serious setback. Aimed at this situation, the county committee conducted a special study of the problem of raising hogs, and issued the following rules concerning hog raising policies according to the different forms of the production responsibility system:

1. Production teams that implement unified management, distribution and contract work and production to teams or to individuals should generally award work points to hog raising families and work points to commune members

providing manure. Hogs weighing less than 40 jin should be awarded half a work point each. Hogs weighing more than 40 jin should be awarded one work point each. Each sow should be awarded three work points. For each hog that has been raised from the young to the time it is removed from the pen and the time when its manure accumulates to 7 to 8 cubic meters, about 70 work points should be awarded per cubic meter of manure. In awarding food grains for hog raising, 1 jin of food grains should be awarded for every 10 work points accumulated by a commune member raising hogs.

2. Production teams implrmenting the system of responsibility for food grain fields and economic crops should award one work point a day to any commune member who raises one hog weighing more than 20 jin and the manure submitted to the collective should be paid for according to quality. Feed grains for hog raising follows the general rule of "1 jin of feed per jin of weight per hog." The amount of feed grains which should be received for raising and fattening hogs determines the size of the plot of land for planting feed grains, and this plot is to be managed individually by the commune member.

3. Production teams that implement the system of contracting production to the families and contracting work to the families will not procure manure from hogs raised by commune members anymore. The commune members are only given feed grains for hog raising. There are two says: One is that the production team uniformly distributes food grains as subsidy according to the number of jin gained by the hogs raised by a family. The second is to determine the amount of feed grains according to the number of jin gained by the hogs, then,, a plot of land whose size is appropriate for producing the amount of feed grains thus determined is assigned to the commune member. Generally, a feed plot of 1 fen 5 li is assigned for every head of hog raised from young to the time it is fattened. Two fen of feed plot are assigned for every sow. The plots are managed and used by the commune members themselves.

After establishing these rules, the amount of feed grains received by commune members for raising one hog in the county equals the amount received prior to implementation of the production responsibility system. The income of the hog raising family from the collective has not reduced. Commune members said: "This time, the hog raising policy is implemented anew, and there are more real benefits from raising hogs, so why should we not raise more hogs?" The enthusiasm of the broad number of commune members and masses in raising hogs has been mobilized, and the hog raising industry through the county has rapidly shown new development.

9296
CSO: 4007/245

HANDAN PREFECTURE PROMOTES SCIENCE, TECHNOLOGY IN AGRICULTURE

Shijiazhuang HEIBEI RIBAO in Chinese 3 Feb 82 p 1

[Article by Yang Zhijun [2799 1807 6511] and Li Rishan [2621 2480 1472]: "Popularize Science, Satisfy Farmers' Needs, Handan Prefecture Strengthens the Agency To Popularize Agricultural Techniques"]

[Text] After the Handan Prefecture implemented the agricultural production responsibility system in the farm villages, a new situation of learning science, loving science and using science emerged. The broad masses of farmers urgently want to learn scientific techniques and utilize scientific techniques to guide production, seize bumper harvests and become rich. The committee of the Handan Prefecture and the administrative office have decided to restore and make sound the science and technology agency in face of this new situation. Each city and county established a science committee and a science association and many special societies, and the agricultural and forestry departments of the prefecture, cities and counties established technical stations, plant protection stations, soil fertility stations, veterinary stations, seed companies and superior seed farms. Some counties also established county agricultural science institutes and science and technology centers. Throughout the prefecture, 391 communes established superior seed farms, and 1,341 brigades established small farms. The agricultural science and technology department at each level cooperated together and propagandized and popularized agricultural science and technology in broadcasts and lectures, by posting bulletins in farm villages, and at night schools for farmers. The technical cadres of many county communes signed joint technical contracts with production brigades, production teams and responsible families and work teams. At the same time, the whole prefecture also popularized demonstration farms for scientific planting and scientific raising of animals, and it popularized the experience of demonstration families. Visible results were realized. In 1980, the whole prefecture planted 590,000 mu of lumian No 1 cotton. In 1981, this expanded to 1.2 million mu. Hanza No 1 corn increased from 23,000 mu to 246,000 mu. Pingsanjiu wheat increased from 220,000 mu to over 600,000 mu. The technical and management level in the cultivation of major farm crops, in the prevention and control of cotton diseases and insect pests, in forestry, in livestock production, in aquatic production and in family sidelines all improved greatly.

9296
CSO: 4007/245

POLYESTER COTTON CLOTH PRODUCTION CUT BACK

Shijiazhuang HEBEI RIBAO in Chinese 24 Mar 82 p 1

[Article by Qian Yongsheng [6929 3057 3932]: "Provincial Textile Bureau Scales Down Polyester Cotton Production Plans While Increasing Pure Cotton Cloth and Low Proportion Chemical Fiber Products"]

[Text] In order to meet developing needs of the people's livelihood and strive to increase economic benefits, recently the Provincial Textile Industry Bureau readjusted product structure, scaling down polyester-cotton cloth production plans for this year while increasing output of pure cotton cloth that is currently in short supply in the market and which sells at the right price, and of cloth that is a blend of cotton and a low proportion of chemical fibers that enjoys sales in rural villages.

The downscaling of polyester-cotton cloth production plans was done on the common basis of last year's production of polyester-cotton cloth by textile industries throughout the country and market sales. The province's output of polyester-cotton cloth has been cut by 43 million meters from original plans, and corresponding reductions have been made in miscellaneous polyester-cotton cloth. Following the downscaling of polyester and cotton cloth production plans, production is to be strictly controlled according to plan. Superficially it appears that gross output value of the province's textile industry will be somewhat impaired; however, this measure should get rid of some fat so that the speed of development will be more solid. Furthermore, depending on market requirements, production of pure cotton products and products with a low proportion of chemical fibers may be increased. The Provincial Textile Industry Bureau is also preparing to organize before 1 May this year the cotton textile and printing and dyeing enterprises in the two cities of Shijiazhuang and Handan in combined test development of a group of polyester and cotton products suited to rural markets, and to go into villages to develop sales.

9432
CSO: 4007/367

NEW, OLD HYBRID COTTON VARIETIES COMPARED

Shijiazhuang HEBEI RIBAO in Chinese 15 Apr 82 p 2

[Article by Su Shuangsuo [5685 7175 6956], Economic Crop Institute, Provincial Academy of Agricultural Sciences: "Disease-Resistant, High-Yield Yimaian No 2 Cotton"]

[Text] Yimian No 2 cotton (formerly termed Zhengding Zixuan No 3 or Zhengmian No 1) is a variety of cotton successfully bred by the Anxia Production Brigade's Science and Technology Team in Zhengding County, Hebei Province. Experiments and test plantings, as well as comparisons with Lumian No 1, which is currently winning prizes and being promoted thoughout the country, have attested to its leading position in many respects.

1. In fusarium yellow disease areas, yield are higher than for Lumian No 1. In 1978 and in 1980, these two varieties were involved at the same time in Huang He river basin area tests of varieties for resistance to fusarium yellow disease. At 12 different times and places over a period of 2 years, ginned cotton yields for Jimian No 2 averaged 157.3 jin, 18.6 jin more than for Lumian No 1. Six of these times and places were in Hebei Province where Jimian No 2 yields of ginned cotton averaged 174 jin per mu, an increase of 24.7 jin per mu of ginned cotton as compared with Lumian No 1. In addition, in fusarium yellow disease areas of Hebei Province the bumper yield properties and the early ripening properties of Jimian No 2 were also better than those of fusarium yellow disease resistant variety, Zhongmiansuo No 9 (formerly Zhong 399). At six different times and places over a 2 year period, average yields of ginned cotton were 8.8 jin more per mu than for Zhongmiansuo No 9. Before frost yields of ginned cotton were 6.8 jin more per mu (according to Huang He basin fusarium yellow disease resistant variety area data). Checks of two experiments this year by the Provincial Economic Crop Institute showed that the number of bolls per mu for Jimian No 2 were almost 4,000 more than for Zhongmiansuo No 9.

2. Increased yield potential is greater than for Lumian No 1. In area tests on conventional varieties conducted in the Huang He river basin, maximum yields for Jimian No 2 were 285.9 jin per mu of ginned cotton; for Lumian No 1, they were 264.9 jin (at Dali in Shaanxi Province in 1978). In nine of the experiments conducted at 35 different times and places over a 2 year period, Jimian No 2 exhibited ginned cotton yields of more than 200 jin per mu. The

same was true only three times for Lumian No 1. In area tests of fusarium yellow disease resistant varieties in the Huang He basin, maximum yields of ginned cotton for Jimian No 2 were 231.8 jin per mu; for Lumian No 1, they were 176.7 jin (in 1980 at Yongnian). In experiments conducted at 12 times and places over a 2 year period, Jimian No 2 produced yields of more than 200 jin per mu of ginned cotton in three, while Lumian No 1 had no yields of more than 200 jin at any test site. This shows the relatively greater increased yield potential of Jimian No 2 as compared with Lumian No 1. On the basis of test plantings over a several year period, leadership comrades at the Zhoujiazhuang Commune in Jin County believe the following: our commune, Jimian No 2 is superior to Lumian No 1. This variety does not lodge, does not degenerate early, and produces high yields.

3. Growth is better than for Lumian No 1. Because of the stronger growth of Jimian No 2, when grown on well manured ground, it is prone to vigorous growth that is difficult to manage. Secondly, in places where there was no yellow fusarium disease, it was relatively slow maturing. The opinion of communes and brigades in Hebei Province on the growing of Jimian No 2 is that though this is a high yield variety, it is not as easy to manage as Lumian No 1. When water and manure are increased during the mid-period, it is prone to vigorous growth. In area tests of conventional varieties conducted at 35 different times and places in the Huang He basin, pre-frost yields for Jimian No 2 averaged 29.7 jin per mu less than for Lumian No 1. However, in yellow fusarium disease resistant area tests conducted in the Huang He basin, its pre-frost ginned cotton yields were higher than for Lumian No 1. At several times and in several places in the Huang He basin, its yield averaged 3.6 jin higher, those in Hebei Province averaging 6.1 jin higher on six occasions in six places.

4. Fiber quality was virtually the same as for Lumian No 1. Results of fiber quality tests by the Huang He basin conventional varieties area testing organization showed quality of Jimian No 2 and Lumian No 1 to be virtually identical. Comprehensive appraisal of test spinning of 21-count yarn of the two varieties for 2 years showed both to be top quality second grade, their spinning qualities tending to be low.

5. Yields in areas free from disease were slightly lower than for Lumian No 1. In 1977 and 1978, Jimian No 2 and Lumiang No 1 were part of national area tests of conventional varieties conducted at the same time in the Huang He basin. Tests conducted at 35 different times and places over a 2 year period produced yields of ginned cotton averaging 154.4 jin for Jimian No 1, which was 4.2 jin per mu less than for Lumian No 1 (158.6 jin).

A summary of the foregoing shows Jimian No 2 to be no less a fine variety than Lumian No 1. In terms of increased yield potential, resistance to fusarium yellow disease and bumper yield qualities in yellow fusarium disease areas, it is superior to Lumian No 1. In Hebei province where a new situation of great development of cotton is underway, serious attention should be given this variety, and general methods should be adapted to local situations for the demonstration and promotion of this variety. In the course of demonstration and promotion, seeds should be dibbled to conserve the quantity of seeds used in order to enlarge the planted area with all possible speed.

9432
CSO: 4007/385

PROVINCIAL PRICE POLICIES, PRACTICES PROPOUNDED

Shijiazhuang HEBEI RIBAO in Chinese 18 Apr 82 p 2

[Article: "Officer in Charge at Provincial Commodity Price Commission Answers Correspondent's Questions About Commodity Prices. Actual Increases in Peasant, Staff, and Employee Income in Hebei Province During the Past Several Years Have Been Greater Than Increases in Expenditures Resulting From Increases in Commodity Prices, Meaning An Increase in the Actual Standard of Living of the Masses"]

[Text] Recently the officer in charge at the Provincial Commodity Price Commission answered the correspondents questions about commodity prices as follows:

Question: What has been the situation during the past several years in Hebei Province as regards market retail price rises?

Answer: During the past few years, market retail prices in the province have risen somewhat. Statistics show that the province's overall social commodity retail price index rose 1.4 percent between 1978 and 1979, 5.3 percent between 1979 and 1980, and 2.1 percent between 1980 and 1981. The total rise during the 3 year period was nine percent for an annual incremental increase of 2.9 percent, virtual stability in market prices being maintained. So why is it that people always feel that the prices of goods have risen a great deal? This is because: (1) everyone is aware of the price rise for consumption goods that they regularly buy such as pork, beef and lamb, eggs, vegetables, fruits, tobacco, alcoholic beverages and aquatic products. Though the prices for some durable consumer goods such as television sets, wristwatches, chemical fiber cloth, stretch socks, electric meters, and electric fans have gone down, the price decline for some of them being very great; nevertheless, since people do not buy such items frequently, they remain unaware of the substantial drop in their prices. (2) Once negotiated prices for some agricultural products and liberalization of farmers' market trade occured, some things that could not be purchased in the past could now be bought at any time, making it easy for the masses. However, for some things, the price in collective markets is higher than the national list price, and people who buy things in farmers' markets have to pay more. (3) As a result of increase in standards of living, people have higher demands for food, clothing, and items used in daily life. Development of medium grade goods has also meant

increased expenditures. (4) Some goods sold by plants, stores, and beverage stalls are low in quality and high in price, or have been short weighted. Use of such tactics constitutes a hidden price rise. Some people have also taken it upon themselves to raise prices or to enlarge the scope of negotiated price items, selling them at high prices. All these things make people feel that prices have risen a great deal.

Question: Have price rises hurt improvement in the people's standards of living?

Answer: Price rises have caused some increase in the living expenses of the masses, which has hurt the people's livelihood. However, for several years now peasant, staff and employee income has actually increased more than the increase in expenditures. Statistics show that in the period from 1979 to 1981 increases in procurement prices paid for agricultural products alone brought an increase in peasant earnings throughout the province of more than 2.6 billion yuan. After price rises have been subtracted from this total, each peasant still realized increased earnings of somewhat more than 41 yuan. As a result of increases in wages, payment of bonuses and employment of workers, family income of urban staff and workers greatly increased. Statistics show that in 1981 every staff and worker in the province averaged annual wage income of 742 yuan, a 159 yuan increase over the 583 yuan of 1978 for a 27.3 percent increase. The extent of increase in wages greatly exceeded the extent of increase in prices. Therefore, the actual standard of living of the masses also rose. Naturally, for households in which there was little employment of workers, increases in wages, or payment of bonuses, living standards were slightly impaired or may have even fallen for a small number of people. This situation will be gradually solved with development of production.

Question: What major decisions has the state made with regard to pricing policies during the past several years?

Answer: The major decisions taken during the past several years have been as follows: First was to increase procurement prices paid for agricultural products, with increased prices being paid for purchases in excesss of quotas for grain, cotton, and edible oil. Comparison of 1981 with 1978 shows overall procurement price levels for farm products throughout the province to have increased by 39.62 percent. Not only was this advantageous for peasants, but was also remarkably effective in development of industrial production, in providing an abundance of products to markets, and in improving the livelihood of people in cities.

Second, in the case of some consumer goods used in daily life for which prices were not fair, planned readjustments upward or downward were made. Since the second quarter of 1981, price hikes in the province have totaled more than 80 million yuan while price drops for the province have totaled more than 94 million yuan. Equitable upward or downward readjustments in the prices of goods have helped promote development of production, have helped expand circulation of commodities, and have played an active role in the coordinated development of the national economy. Some people suppose that stabilization of prices means one cannot carry out readjustment, or that prices can only go

down but not up. Such notions do not take account of all factors, and do not fit in with the objective requirements of economic development. Maintenance of fundamental stability of market prices is our unswerving policy. While maintaining fundamental stability of commodity prices, we can readjust inequitable prices upward or downward. Stable prices are not frozen prices; there must be fundamental stability with equitable readjustments.

Third, in price management the former method whereby the setting of prices was done uniformly by the state alone has been broken. Instead multiple forms of pricing have been adopted including setting of prices by the state, negotiated prices and country fair trade prices. These fully embody the principles of taking the planned economy as primary and regulation by market mechanism as secondary. This way of doing things helps surmount the former excessive control and stifling control of prices, which impeded production and circulation of goods, and it helps enliven the economy. In this regard, because of lack of experiences, some problems still exist and steady improvements will be required in the course of practice.

Question: What actions have the party and the state taken to maintain the fundamental stability of market retail prices?

Answer: During the past several years, in order to maintain the virtual stability of market prices, the CCP Central Committee and State Council, the Provincial CCP Committee, and the Provincial People's Government have issued a series of major instructions strictly controlling commodity prices, restructuring negotiated prices, carrying out large sclae checks on commodity prices, and intensifying commodity price controls and supervisory work. In addition, procurement prices paid for agricultural products have been increased, but sale prices of basic necessities, which account for a very great proportion of the people's living expenses, have not been touched (e.g. for supply of fixed amounts of grain, edible oil, and cotton used for wadding). Losses resulting from such deals have been subsidized from national revenues. Although commensurate readjustment has been made in the sale price of some things (such as eight categories of non-staple and processed food made from pork, eggs, poultry, vegetables, and aquatic products), the state has instituted price subsidies for some industrial goods. Statistics for 1980 show price subsidies for the province to have totaled more than 1.2 billion yuan, accounting for about 30 percent of revenues. Price subsidies for grain and oil amounted to somewhat more than 400 million yuan. For example, actual procurement price paid for standard noodles averaged 0.25 yuan per jin, yet they were supplied at 0.185 yuan per jin. Corn flour was purchased at an average price of 0.17 yuan per jin and supplied at 0.116 yuan per jin. Average procurement prices paid for peanut oil was 1.42 yuan per jin, but it was supplied at 0.84 yuan per jin. Cotton subsidies amounted to more than 300 million yuan; price subsidies for non-staple foods amounted to more than 200 million yuan; price subsidies for coal purchased in markets for use in the daily life of the people amounted to more than 60 million yuan; and subsidies for soap and washing powder amounted to more than 4 million yuan. The state even subsidized the price of students' textbooks and red scarves. At the same time prices and fees paid for rent, for water and electricity, for train and bus tickets were strictly controlled and straightened out so that, insofar as possible, expenditures by the masses would not be increased.

9432
CSO: 4007/394

PROXIMITY TO CITIES EXPLOITED TO DIVERSIFY LOCAL ECONOMY

Shijiazhuang HEBEI RIBAO in Chinese 2 Apr 82 p 2

[Article by Shi Tongwen [0670 0681 2429] and Jia Yujun [6328 3768 0689]: "Make the Most of Local Advantages Through Development of Economic Diversification. Langfang Prefecture's Income Last Year From Economic Diversification Amounted to More Than 60 Percent of Total Rural Income"]

[Text] By actively making the most of its advantage in being near the two cities of Beijing and Tianjin, Langfang Prefecture has won outstanding economic results from its vigourous development of economically diversified production. In 1981, the prefecture's income from commune and brigade economic diversification amounted to 524.6 million yuan, more than 60 percent of its total rural economic income and a 37 percent increase over 1978.

In order to take full advantage of its location close to the two cities of Beijing and Tianjin, Langfang Prefecture was at great pains in the development of its economic diversification to organize production to meet market needs in the two cities. In view of the serious shortages of fresh vegetables, melons, and fruits in the two cities every year in the past, they energetically increased output of fresh vegetables, melons, and fruits and took the initiative in doing a good job of transportation and supply work. In 1981 the prefecture provided Beijing and Tianjin markets with more than 400 million jin of fresh watermelons and vegetables of various kinds, earning more than 22 million yuan thereby. Both Beijing and Tainjin were fairly short of building materials, so Sanhe, Xianghe, and Dacheng counties in Langfang Prefecture used local resources to produce construction materials such as cement, lime, crushed stone, and bricks, which enjoyed a very good market. Now small commune and brigade operated building materials enterprises in the prefecture number more than 270, employing more than 20,000 people. Many of the communes and brigades in the prefecture have used local agricultural products to do large-scale processing of small food items. For example, Chengguan Commune in Dacheng County, a county that produces prodigious quantities of mung beans and in which the masses know the techniques for processing mung bean pudding, organized the masses to make mung bean pudding. Within a year's time, the commune was operating 67 mung bean pudding processing plants that employed nearly 1,000 people. Between January and October last year, earnings were 2.1 million yuan, more than 50 percent of the earnings of all commune and brigade enterprises in the prefecture.

Langfang Prefecture also used various methods of association to actively bring into the prefecture funds, skills, and enterpirse management experiences from Beijing and Tianjin. During the past 2 years, it has developed in cooperation with the two cities a total of more than 1,700 joint economic operations including just stock ventures, compensatory trade, and processing of materials brought in from elsewhere. Last year, gross earnings totaled more than 31 million yuan for profits of more than 14 million yuan.

9432
CSO: 4007/369

KEY MEASURES TO COMBAT DROUGHT REITERATED

Shijiazhuang HEBEI RIBAO in Chinese 28 Mar 82 pp 1, 2

[Article: "Strengthen Leadership; Give Firm Attention to Crucial Measures; Thoroughgoingly Carry Out "Double Assurances" in Combat Against Drought. Officer-in-Charge at Provincial Flood Prevention and Drought Combat Command Expresses Views to the Correspondent on How To Carry Out the Struggle Against Drought Now"]

[Text] Recently an officer-in-charge at the Provincial Flood Prevention and Drought Combat Command expressed views to this newspaper's correspondent about the present drought situation in the province and about how to launch struggle against drought. He said the following.

The drought situation in Hebei Province is now extremely serious. Since the lunar new year, rain and snow have continued scant. During the last 10 days of February there were two light to moderate rainfalls, and in prefectures to the south of Baoding and Hengshui, there was somewhat more. At first some amelioration of the drought seemed possible, but because of the long drought and the recent steady climb in temperatures, soil moisture has evaporated quickly. Even in places with faily large rainfall, basic soil moisture has not been re-established. Measurements made at various places show soil moisture content at a depth of 10 centimeters to be 13 to 14 percent, and at a depth of 20 centimeters to be only 9 to 11 percent. The area of the province lacking sufficient soil moisture now covers more than 59 million mu. Unless a soaking rain soon falls, it will not be possible to sow on time on an unplowed field area of almost 20 million mu. As a result of consecutive years of drought, sources of irrigation water have been greatly reduced. The quantity of water available for use in the province's large and medium size reservoirs is now less than one-fourth the amount available in ordinary years. The groud water table continues to decline precipitously. In mountain areas and on the plains, the number of production teams experiencing difficulties with drinking water for people and livestock is steadily increasing. Some teams have to haul drinking water from as far away as 90 li. According to forecasts from meteorological units, rainfall during April will continue to be less than in normal years.

Faced with serious drought, all jurisdictions have taken vigorous action to launch a struggle of "one combat and double assurance." Following two

telephone conferences by the Provincial CCP Committee and the provincial government, counties and prefectures have convened different kinds of conferences of implementation in which were put forward specific actions and requirements, and a large number of cadres were sent into the front line of combat against drought. According to incomplete statistics, a total of somewhat more than 22,300 cadres were sent into the front lines of combat against drought everywhere. All jurisdictions have given strict attention to institution of pump well management responsibility systems. More than 300,000 of the 480,000 pump wells that have been equipped in the province have established pump well management responsibility systems. This amounts to 65 percent of all equipped pump wells. All jurisdictions have also stirred the masses to open up new water sources. As of the end of February, the province's newly opened pump wells, equipped pump wells, and delapidated wells restored to operation numbered more than for the same period last year. In addition, some small water conservancy projects that can be used to combat drought during the present year requiring little investment and showing quick results have been built. These all greatly increase capabilities to combat drought. Spring irrigation has been done on 10.65 million mu of wheatfields and as yet unplowed fields, 3.05 million mu more than was watered during the same period last year. In addition, strict attention has been given the hoeing and raking of wheatfields and the harrowing of the land to conserve soil moisture.

In order to have a fairly good summer harvest and complete spring sowing tasks on time, all jurisdictions should give attention to the following tasks in their combat against drought.

First is strengthening of leadership of drought combat work. Party and government units at all levels are to transfer large numbers of cadres to the front line of combat against drought, and leadership cadres at all levels are particularly to further change their work style, going to places with great hardships and going to places where life is arduous to help solve practical problems in the fight against drought. Cadres who go down to the countryside are to direct their attentions first of all to the building of grassroots teams, and to the reorganization of the small number of moribund or semi-moribund leadership teams in order to be able to concretely organize leadership of the masses for combat against drought.

Second, when perfecting agricultural production responsibility systems, pump well management responsibility systems must be put into effect so that full benefits may be derived from existing pump wells. A look at the present situation shows that 35 percent of pump wells lack systems of responsibility, and at a substantial number of pump wells no one is in charge; water is available, but the fields cannot be watered. This problem must attract a high degree of attention on the part of all jurisdictions. The establishment and perfection of pump well management responsibility systems must be taken in hand as an important matter in the task of combating drought this spring, forces being concentrated in time for diligent attention to implementation, well by well, for resolute solution of the problem of pump wells with no one in charge, and having wells but not being able to water the fields. No matter the form of agricultural responsibility system instituted, pump wells must

be under centralized management of production brigades or production teams, and where pump wells and pumping machines have been parceled out, they must be resolutely recovered. Those who steal pumping machines or damage pump wells and other water conservancy facilities are to be promptly and severely dealt with.

Third, water sources are to be expanded to increase capabilities to combat drought. Places having requisite conditions are to vigorously seek fresh water by digging shallow wells, individual households or a collection of households digging the wells, the method to be used being ownership, management, and use belonging to the diggers to encourage the masses to sink pump wells. Pump wells that have not yet been equipped should be equipped, and crumbling or abandoned wells put back into operation. The masses should be aroused to dig open old brick wells, to open hand pump vacuum wells, and to dig ditches and pits. Places having water above ground that can be used should manage and use it well so that it can play a full role in combat against drought. In addition, full use should be made of urban waste water and mining area effluent, every available means being used to expand sources of water and increase capabilities to combat drought.

Fourth, is diligent scientific use of water, planned use of water, and conservation in use of water. The most important actions to be taken are sealing leaks in ridged ditches from pump wells, leveling fields, irrigating small plots, combining the flow from many wells, watering with a combination of brackish and fresh water, rolling of unplowed fields before watering them, and active development of spray irrigation, conserving water resources to the maximum extent possible while expanding the area watered. In addition, a good job of harrowing and rolling should be done to conserve soil moisture, and wheatfields should be hoed and raked to reduce moisture evaporation. In places where spring sowing tasks are heavy and water resources insufficient, preparations should be made to dibble seeds to combat drought in an effort to plant on time. In low-lying areas where water resources cannot be assured, general methods should be adapted to local situations in a readjustment of crop patterns, with greater planting of drought-resistant, waterlogging-resistant, and alkaline-resistant crops.

Fifth, attention should be given to conservation of petroleum and electricity. Right now petroleum products and electricity are in seriously short supply. This is particularly true of diesel oil. Counties, communes, and brigades are to assign people to management of diesel oil, allocating oil for use on the basis of irrigated area criteria, and supplying oil on the basis of the pace of watering. At the same time effective action should be taken to plug diesel oil leaks and, when necessary, to restrict other uses of oil to assure needs for combating drought. In the case of pump wells that use electricity, the masses should be organized to the maximum extent possible to water fields during nighttime hours of low demand.

Sixth is carrying forward a spirit of self reliance. There are limits to support funds that the state can provide to combat drought; mostly the strength of the masses will have to be relied upon, and there will have to be conscientious organization. Expense funds to combat drought handed down by the

province should be well managed and well used. Funds to combat drought must be used where they will do the most good. They should be used to provide timely help, going mostly to sustain communes and brigades suffering economic hardships, making them play a role as rapidly as possible.

Seventh, all trades and industries must vigorously support combat against drought. Commercial units should make plans for allocation and supply of diesel and engine oil; electricity units are to solve problems in use of electricity to combat drought; supply and marketing units are to assure prompt supply of materials needed to sink wells; farm machinery units are to organize technicians to go into the countryside to help commune and brigade maintenance of drainage and irrigation equipment; and banking units are to promptly issue loans to support communes and brigades in combat against drought.

We believe that with the strengthening of leadership and the mobilization of the people throughout the province to surmount paralysis and the trusting to blind luck, and by building confidence, victory can surely be won in the struggle against drought.

9432
CSO: 4007/369

CONSERVATION OF AGRICULTURAL USE OF WATER EMPHASIZED

Shijiazhuang HEBEI RIBAO in Chinese 13 Feb 82 p 2

[Article by the Science Coordination Office of the Shijiazhuang Prefecture: "Conserve Agricultural Use of Water, Restore Balance Between Extraction and Replenishment"]

[Text] At present, anarchy exists in the use of water for agricultural irrigation. Each unit reigns over its own resource and each unit extracts water without restraint. This has created great destruction of the resources of water supply. Shijiazhuang Prefecture always had rich underground water resources, and it believed that such resources were inexhaustible, so no attention was given to retaining and storing water sources and conserving the use of water. In recent years, extraction of underground water has not been limited and there have been no quotas for the use of water. Because of massive extraction, the balance between extraction and replenishment of underground water has been destroyed, and the level of the water reserves has decreased year after year. At the beginning of the 1960's, the level of underground water was not deeper than 4 meters. Now, the level has reached more than 10 meters deep, and "funnel" areas of varying degrees have emerged in Zhao County, Jin County, Gaocheng, and Zhengding. The large-scale drop in underground water has forced the abandonment of over 30,000 mechanized wells. Less than 20 percent of the rest of the mechanized wells are able to produce full wells of water. The yield of agricultural production has been reduced in many places, and in some places there have not been any harvests. Take wheat as an example: last year, 270,000 mu of wheat fields did not produce a harvest because of a lack of water and on 400,000 mu there was a reduced yield, so there was a shortage of over 100 million jin in the yield of wheat. Last spring, 390,000 mu of spring sown fields became summer sown fields because of drought and little rain. After the underground water level dropped, the distance for pumping water to the surface increased, and this raised the consumption of fuel and power. Some localities also had to purchase new water lifting equipment. This increased the cost of agriculture and reduced the income of farmers. Therefore, the problem of scientific exploration and utilization of water resources has become more than simply an academic problem: it is an acute, real problem affecting the life of the people and the nation that needs to be solved urgently. At present, the water sources in some localities are deficient. This has already brought about serious loss to the development of the national economy. This lesson must be learned.

The greatest hindrance to conservation of water at present is the widely existing emphasis on developing water sources while neglecting conservation of water flow, the attention to immediate benefits and the neglect of long-term benefits, and the emphasis on determining supply based on need and silence in determining need based on supply. To solve these problems, recognition of the crisis in water resources by the leadership at each level must be increased. At present, the conflict between supply and demand on water resources must be eased. We must manage the following aspects in a key way. First, we must draw up plans and strengthen management. We must zone the regions for water conservancy well, and establish concrete measures and methods for scientific use of water. We must implement various forms of the responsibility system to closely combine conservation of water with the economic benefits of the departments and the individual. Second, we must conserve water via many channels. Measures must be implemented to prevent leakage in water conservancy projects and main waterways by suiting measures to local circumstances to improve the effective utilization coefficient of canal systems. We must retain water and soil well, bank soil fertility, thicken the soil layer, level the land, strengthen raking, and change the unscientific method of using irrigation to replace tilling. We must develop the good tradition of fine tilling and careful planting, change large ridges into small ridges and long ditches to short ditches. We must exert efforts to explore the pattern of the need for water of different crops and irrigate scientifically at the appropriate time and in appropriate amounts. Third, we must rationally exploit water sources and open up broad water sources. We must establish the concept that the entire prefecture is one chessboard in agricultural use of water, and all kinds of water sources such as canals, wells, reservoirs and ponds must be uniformly controlled and used. We must fully utilize various kinds of abandoned water sources and actively develop back irrigation. We must develop the gain of groups of wells so that deep, medium and shallow wells can be combined. We must strengthen the study and utilization of alkaline water, polluted water and water in the soil so that their function can be developed for production.

9296
CSO: 4007/243

PROVINCIAL GOVERNMENT INSTRUCTS ALL CITIZENS TO PLANT TREES

Shijiazhuang HEBEI RIBAO in Chinese 11 Feb 82 p 1

[Notice issued by the Hebei People's Government on 9 February 1982: "Notice on Tree Planting Duties by All Citizens, Hebei Provincial People's Government (No Other Circulars)"]

[Text] To all regional administrative offices, all city and county people's governments (revolutionary committees), all departments of the provincial government:

The "Decision Concerning the Duties of All Citizens in the Tree Planting Movement" passed by the Fourth Session of the Fifth National People's Congress pointed out: "All citizens of the People's Republic of China reaching 11 years or age, except for the old, the infirm, the sick and the handicapped, must suit measures to local circumstances, and each person has the duty of planting three to five trees a year, or cultivating saplings, managing and protecting trees and fulfilling other greening duties equivalent to the amount of labor in tree planting." To implement the movement of the voluntary tree planting duty by all citizens broadly, profoundly and persistently in all provinces, cities and villages, and to combine the notice with the actual situation in our province, the following notice is issued:

I. The voluntary tree planting movement by all citizens is an important strategic measure to green the motherland, to control mountains and rivers, and to maintain and improve the ecological environment. It will greatly promote the beautification of the motherland stimulate the wealth of the nation, bring prosperity to the nationalities and civilization to society. Each locality and each unit must conscientiously study and propagate in a visible way the "decision" concerning voluntary tree planting as passed by the Fourth Session of the Fifth People's Congress so that every family knows and everyone understands and every citizen can conscientiously participate in the voluntary tree planting movement.

II. Each locality, city, county, each commune and each brigade in farm villages, each agency, plant, mine, school and business unit must plan voluntary tree planting well. The duty of planting three to five trees by each person must be implemented at each basic level and by each individual and in each plot of land according to each sector and each unit. Communes and brigades in farm villages must first afforest expanses of land suitable for forestation,

build forest networks in farmland, and plant trees in land surrounding villages and towns. Communes and brigades in mountain regions must organize commune members to complete the duties of greening and forestation of private mountains and contracted mountain land for forestation which are their personal responsibilities while the communes and brigades complete the voluntary duties of planting trees. Cities must carry out the work of greening public land, greening scenic attractions and ancient ruins and land along streets. Offices, schools, troop units, factories and mines must first carry out the work of greening their own units. Voluntary tree planting should first be arranged for nearby state-run timber farms, commune and brigade timber farms or state-run cooperative forest farms.

III. Sapling cultivation must be carried out well. Each locality must exert efforts to manage the present state-run nurseries, nurseries in gardens and forests, nurseries for railroads, and commune and brigade nurseries. At the same time, a definite area of land and specialized personnel must be arranged to expand and build new sapling bases and cultivate superior quality and healthy saplings. City and town offices, factories and mines, troops, schools and such units must be encouraged to build their own nurseries. Units that do not have conditions for establishing nurseries can sign contracts with nurseries for sapling supplies and for ordering supplies of saplings. State-run timber farms and state-run nurseries must all actively produce commercial saplings for voluntary tree planting. Communes and brigades in farm villages that have contracted work to the families and production to the families must establish the area for sapling cultivation according to the size of the task of forestation and appropriate sufficient land for sapling cultivation. The investment in saplings needed for voluntary tree planting by each locality and each unit should generally be solved by the units holding rights to forest timber themselves. The financial offices of the local governments at each level must allocate a definite sum each year to support voluntary tree planting.

IV. The task of voluntary tree planting must include attention to practical results and guarantee quality and quantity in completing the task. Measures must be suited to local circumstances, trees suitable to the locality must be planted, and there must not be arbitrary uniformity. Technical knowledge in greening and tree planting must be popularized, technical rules for voluntary tree planting must be established, and technical backbone forces must be trained and technical guidance strengthened so that every tree planted will live. Management and protection of forests must be strengthened, the responsibility system of protecting forests must be soundly established, and special teams, special groups and special persons must be assigned to manage and protect the trees. Felling and renewing forests must be carried out according to regulations and must be approved. No unit and no individual is allowed to fell trees at will or to destroy trees.

V. Leadership in voluntary tree planting must be concretely strengthened. Comrade Li Erzhong [2621 1422 6850] heads the Provincial Greening Committee as chief commissioner. Each level must establish a greening committee to be headed by a leading comrade of the local government and to consist of responsible comrades of related departments and civilian organizations who will be uniformly responsible for the greening of the locality and for organizing

leadership in voluntary tree planting. This year's voluntary tree planting work must be actively started and must progress steadily. All localities with mature conditions, such as localities with sufficient saplings, localities that have plans and that have technical training, must launch the tree planting movement on an overall basis. Localities with immature conditions must actively work well to create appropriate conditions. We must adhere to the principle of doing the easy tasks first and the difficult tasks later and develop a group of key localities and units for voluntary tree planting to summarize experience, to develop the point to lead the rest, and to push forward the development of voluntary tree planting. The greening committee at each level must inspect the progress in voluntary tree planting once a year in the fall and must report to the people's government at the same level. Those with outstanding achievements should be praised and rewarded. Units or individuals who do not carry out the duties without reason should be subjected to criticism and education or economic sanction.

Hebei Provincial People's Government
9 February 1982

9296
CSO: 4007/243

STRENGTHENING PUMP WELL RESPONSIBILITY SYSTEM URGED

Questions on System Answered

Shijiazhuang HEBEI RIBAO in Chinese 22 Mar 82 p 2

[Text] Question: Right now the drought situation is serious throughout the province. How can the full benefits of pump wells be brought into play to combat the drought?

Answer: Over the years Hebei Province has built almost 500,000 fully equipped pump wells to water an area of more than 40 million mu, which is more than 70 percent of theprovince's total irrigated area. Making full use of the benefits pump wells can provide is a major assurance for victory against drought. Moreover, the priority task of the moment in making full use of benefits pump wells can provide is the building and perfecting of pump well management organizations, assignment of management personnel, and formulation of management systems. A look at the present situation shows that results differ greatly from good and bad management of pump wells. In Yongnian County, after the Tongtou Production Brigade instituted a pump well management responsibility system, individual well benefits increased from the former 57 mu to 107 mu, and costs per mu per time watered fell from 1.03 yuan to 0.48 yuan. Diesel fuel consumption per mu per time dropped from 4.1 jin to 2.3 jin. Additionally, institution of responsibility systems also paid off in lengthening the useful life of pump wells and their equipment. Therefore, in today's situation of severe drought and a lack of water sources, in perfecting their systems of responsibility every jurisdiction should first of all establish and perfect pump well management responsibility systems.

Question: What is the present situation in Hebei Province regarding pump well management responsibility systems?

Answer: Along with the consolidation and perfection of agricultural production responsibility systems, numerous places have devoted attention to implementation pump well management responsibility systems. In terms of the province as a whole, responsibility systems that have been handled rather well number about 50 percent of the total. The other half have not been handled well, and more than 10 percent of these have no one in charge. Irrigating the fields is very difficult in these, and fights over wells, fights over machinery, and even damage to the pump wells and machinery has taken place. This is a very large problem to which all echelons of leadership must devote a high degree of serious attention and rapidly take action to effect a change.

Question: What forms of pump well management responsibility systems currently exist in Hebei Province?

Answer: Right now Hebei Province's pump well management responsibility systems are mainly of four different kinds: One kind is centralized management by production brigades or production teams, whereby the actual task of managing wells and using wells is contracted to specialized teams. A second kind uses well teams in the practice of a specialized contracting responsibility system. The specific method used is to fix field watering tasks on the basis of pump well water output and condition of the pumping equipment, assigning pump operators or field plot hands control over the watering of fields. A third kind is contracting pump wells or pumps to individual commune members or peasant households, making contracts by the quarter or by the year, some of them providing for complete assignment of responsibility for expenses, some of them contracting costs per mu per time, the time of watering being set for each mu, and fees collected according to the amount of time, the plots being looked after by the households. The fourth kind is a responsibility system whereby land supports the well. In this system, in addition to looking after the well, the pump operator is assigned a certain amount of land around the well for development of economic diversification. Income from use of this land provides compensation to the pump operator. Recently some places have tried setting up pump well companies, collecting fees according to fixed standards from households whose land is watered.

Question: What problems have to be given attention and solved in the establishment and perfection of pump well management responsibility systems?

Answer: Experiences of some communes and brigades that have managed pump wells properly show that the following must be done in order to do this work right: 1) Production brigades and production teams have to have cadres specifically responsible for this work, and they must steadily summarize experiences and solve existing problems. 2) For each pump well one or two people who are enthusiastic about the collective, who have a strong sense of responsibility, and who have certain cultural and technical attainments should be selected, and relative stability should be maintained in such assignments. 3) Good solution to problems of responsibility, rights, and benefits of pump operators. There should be a defined system of responsibility for pump operators. Those who fulfill tasks well should be commended and given rewards; those who do not fulfill their tasks or manage badly should be criticized and indoctrinated. 4) Solution to the relationship between the "centralized" and the "contracted." Pump wells are collective property that should certainly be maintained under centralized management for centralized use. Places that practice "double contracting" responsibility systems should particularly not dismantle pump wells and equipment.

Question: At this time when the drought is serious in Hebei Province, what is to be done about places where no one is in charge of pump wells and where watering cannot be done from wells?

Answer: These places have to take firmly in hand the establishment of pump well responsibility systems. If time is pressing and they cannot set up such systems at once, they can appoint people responsible for them, and management methods may be worked out gradually from the simple to the complex. It is also possible for production brigade or production team cadres to take charge of pump wells, resolutely surmounting the situation of having wells but not being able to do watering. In addition to this, it is necessary to resolutely halt the destruction of pump wells and the private dividing up of machine pumping equipment. All pump wells or machinery that belong to the collective and have been divided up must be handed back. Whatever had been destroyed must be paid for. Those who have illegally occupied or destroyed state or collectively owned water conservancy projects or facilities are to be criticized, indoctrinated, and required to pay compensation for damages in not so serious cases. Serious cases should be punished according to the law.

Provincial Notice Issued

Shijiazhuang HEBEI RIBAO in Chinese 31 Mar 82 p 1

[Text] Recently the Provincial CCP Committee Rural Work Department and the Provincial Water Conservancy Department jointly issued a "Notice on the Establishment and Perfection of Pump Well Management Responsibility Systems," which requires all jurisdictions to treat as a matter of urgency the establishment and perfection of pump well responsibility systems in the perfection of agricultural production systems of responsibility, and as a key measure of "double assurance" in combat against drought, taking it firmly and well in hand.

The notice said that the nearly 500,000 fully equipped pump wells in the province are a major result of the province's water conservancy construction, are precious wealth accumulated by the arduous labor of cadres and masses over a period of many years, and are a major guarantee for combating drought to promote increases in agricultural production. Since the Third Plenary Session of the 11th Party Central Committee, many communes and brigades have established pump well management responsibility systems, which have played an outstanding role in improving irrigation benefits and lowering irrigation costs. However, pump well responsibility systems have not been set up in some communes and brigades, or else, though set up, they are far from complete. In some brigades that practice "double contracting" pump wells are not under centralized management and there is no responsibility system. In some there are pumps but no watering is done; there is fighting over the wells and the pumps, or even destruction of pump wells and the selling off of machinery to the serious impairment of benefits from pump wells. All jurisdictions must direct a high degree of serious attention to this matter, take effective action, and diligently solve the problem.

The notice required all jurisdictions while implementing the spirit of the national rural work conference to make the establishment and perfection of pump well responsibility systems an urgent task in perfection of agricultural production systems of responsibilities, and to make it a key measure in doing a good job on the "one resist and double guarantees," diligent attention being

given it production team by production team and well by well. Where such responsibility systems have been established, experiences should be summarized and further perfection done. No matter the form of responsibility system established, it should conform to the agricultural responsibility system. There should be adaptation of general methods to local situations, and adaptation of general methods to individual production teams, permitting diversity, no "arbitrary uniformity" being practiced. No matter the form of agricultural production system of responsibility practiced, pump wells must be under the centralized management of production brigades or production teams. No matter the form of pump well responsibility system, commune members should be aroused to democratic discussion and decision. For each well, one or two people who love the collective, who have a strong sense of responsibility, and who have certain technical attainments should be assigned as pump operators, and there should be relatively little change in such assignments. Pump operators' rights, responsibilities and benefits should be clearly set, and centralized management and centralized watering should be maintained. In brigades in which pump well management systems cannot be established for the time being, a production brigade or production team cadre should be assigned to pump well management and to the organization of service, so that the wells can play a role in combat against drought.

The notice stressed that all levels of CCP committees, government, and rural work units must strengthen leadership over the establishment and perfection of pump well management responsibility systems, take centralized action, and conscientiously supervise and promote check-ups. All levels of water conservancy units are to conscientiously take in hand pump well management as an important task, and help communes and brigades in concrete ways to establish and perfect systems of responsibility, solving existing problems. Water conservancy cadres at all levels are to gradually establish personal responsibility systems, making explicit reward and punishment methods. Communes are to designate one cadre responsible for taking charge of pump well management and all water conservancy work, and when there are difficulties in the assignment of commune personnel, they may be transferred from county water conservancy departments to solve the problem. Production brigades and production teams are to have a single cadre take charge of water conservancy work. All places having wells and pumps that are not being put to use are to investigate leadership responsibility. Dismantling, destruction, or damage to pump wells and other water conservancy facilities is to be resolutely corrected. Equipment distributed among households must be taken back. What has been destroyed must be restored as a matter of urgency. In cases of illegal occupation or damaging of state or collectively owned water conservancy project facilities, investigation of responsibility is to be carried out and restitution for damages paid, economic penalties being imposed as required according to varying circumstances. In cases where serious damage has been done, criminal responsibility is to be fixed.

9432
CSO: 4007/367

NEED FOR SKILLED SEED PRODUCTION TECHNICIANS UNDERSCORED

Beijing RENMIN RIBAO in Chinese 20 Apr 82 p 2

[Article by Correspondent Yang Shanqing [2799 0810 3237]: "Improve Hybrid Rice Seed Production Work"]

[Text] Recently the correspondent learned from agricultural units in Hunan Province that some places suppose that hybrid rice seed production has passed all tests and, as a result, new problems that have appeared in seed production following institution of responsibility systems have yet to be promptly studied and solved. Consequently, the number of units producing seeds has increased but technical guidance has not kept up; yields have dropped; quality has declined; and accidents involving mis-matching and misuse of seeds have occurred. Statistics show that last year in Hunan Province, seeds were mis-matched for 14,000 mu of late rice in seven counties, resulting in a more than 8 million jin reduction in grain output.

In view of this situation, Hunan Province convened a conference of seed company managers from all prefectures, municipalities, and some counties to summarize the lessons of experience in hybrid rice seed production work. The composite view of the group is that seed production now must give attention to the following several improvements.

1. Purification and rejuvenation of the "three line" (sterile line, sterile-free line, and restorer line) parent pairs. Only when the "three line" parent pairs are of a high degree of purity can a fine variety hybrid generation be produced to make use of increased yield heteroses and win bumper harvests in open fields. Consequently all prefectures are to provide financial, material, and technical resources, strengthen cooperation among individual units, and select stock farms having the best conditions for the breeding of parent pairs. Seed companies are, without exception, to be in charge of supplying parent pairs of the "three lines." Production, storage, and release must strictly follow technical control regulations to insure quality.

2. Adherence to centralized continuous tract seed production. Experience has shown that only through the organization by counties of continuous tract seed production can manpower, financial, and material resources be concentrated for

use, and leadership be better strengthened to provide good technical guidance and prevent mix-ups among hybrids to obtain high yields, superior quality, and low costs. Formerly Suining County dispersed its seed production, and yields averaged only 60 jin per mu, with more than 20 percent of seeds being mis-hybridized. In 1979, they began to centralize seed production on continuous tracts and yields per unit of area climbed year after year. By 1981, yields were 215 jin per mu, and purity of 91.2 percent of the seeds met first grade standards. As a result of dispersed seed production of late crop hybrid rice on more than 3,000 mu in Chaling County last year, varieties were mismatched and not a single kernel was harvested. From this it may be seen that dispersed seed production must be resolutely corrected and continuous tract seed production energetically organized.

3. Establishment of a Skilled Technical Corps. The experiences of some advanced units show that for every 1,000 to 1,500 mu of seed production area, one technical cadre has to be assigned. For every 100 to 150 mu, one peasant technician has to be assigned. Comrades who are professionally competent and have a strong sense of responsibility are to be chosen as technical personnel, and they are to be given strict training with no improvisations. A responsibility system of four fixeds and one reward (fixed seed production area, fixed seed yields per unit of area, fixed seed quality, fixed wage compensation, and reward for overfulfillment) is to be instituted for seed production technicians so as to fully arouse their enthusiasm to strive to do a good job of seed production work.

9432
CSO: 4007/383

DITCHING TECHNIQUES USED TO RELIEVE WHEATFIELD WETNESS

Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Apr 82 p 2

[Article: "Huainan Prefecture Solves Wheatfield Damage Caused by Wetness For Rapid Development of Wheat, Barley and Naked Barley Production"]

[Text] Jiangsu Province's Huainan region is crisscrossed by streams and harbors, and has numerous lakes and marshes. The ground water table is high and quantity of rainfall is great. For many years this region's 25 million mu of wheatfields have sustained damage from wetness, which has impaired high and consistent yields. In order to effectively prevent wetness damage to wheat, barley, and naked barley, the region's agricultural science and technology promotion personnel worked together with the farflung cadres and masses on experiments and demonstrations supported by agricultural levels at all levels in the province and prefectures, promoting use over a wide area of a series of ditching techniques for draining water and lowering the wetness of wheatfields. Today a combination of open and underground ditches and of ditches in the fields and outside the fields has been formed throughout the province. Building of ditches to drain away water has been linked to control of the water level in inland streams in an integrated technical system for comprehensive control of damage from wetness. Specifications attained have been "for every wheat field, discharge of water from both ends; three ditches linked to form a whole; free and clear all around, open and hidden ditches in combination, and the inside and outside of fields linked together." This has effectively solved the problem of damage to wheatfields resulting from wetness, and has promoted rapid development of wheat, barley, and naked barley growing throughout the province. In Suzhou, Zhenjiang, Yangzhou, and Nantong prefectures, and in Nanjing municipality, the wheat growing area of the Huainan region, wheat, barley, and naked barley yields per unit of area have steadily climbed. Between 1978 and 1980, wheat yields were 472 jin per mu, a 43.2 percent increase over the early 1970's. Figuring an 80 jin per mu increase in the wheatfield area equipped with the three kinds of ditches, for the province as a whole the increase in wheat, barley, and naked barley harvest in the 3 year period from 1979 to 1981 was more than 5.3 billion jin.

9432
CSO: 4007/384

PROVINCIAL LIVE HOG PRODUCTION BEGINS RECOVERY

Beijing RENMIN RIBAO in Chinese 7 Apr 82 p 1

[Article: "Taking Timely Measures Aimed at the New Situation, Jiangsu Province Live Hog Production Begins Recovery"]

[Texg] Measures taken by Jiangsu Province to develop live hog production has produced results. Since the beginning of this year, farm villages of the whole province have basically turned around the situation of persistent decline in the number of sows in pens and the slackening sales of young pigs. A recovery trend in the production of live hogs has emerged. According to statistics up to the end of February, the number of sows in pens throughout the province (including reserve sows) has approached the level of the same period last year. From January to February, the number of young pigs throughout the province increased 1.5 million head from the same period last year. In February, the number of live hogs throughout the province in pens increased by 150,000 head over January, and the number in March showed further increase over February.

Jiangsu Province is one of our nation's key regions producing commercial hogs. In recent years, 1,700 to 1,800 head of fattened hogs were submitted and sold to the state each year. Last year, the number of fattened hogs and sows dropped, and the sale of young hogs throughout the province has slackened since the second quarter of last year during the course of perfecting the agricultural production responsibility system at the localities. The responsibility system for raising hogs was not implemented in time and some measures carried out by the localities to encourage commune members to raise hogs were not conscientiously implemented.

To change this situation, the Provincial Committee of the Chinese Communist Party in Jiangsu Province and the provincial people's government conscientiously analyzed the situation of raising hogs and live hog production throughout the province at the province-wide farm village work conference and the province-wide agricultural conference, and they established several measures to stabilize and develop live hog production aimed at the new situation and the new problems that have emerged in live hog production.

--The policies of assigned raising, assigned procurement and rewards for sale of live hogs were implemented. The assigned procurement task and the tasks of procuring food grains, cotton, oil were simultaneously issued, and

they were implemented at each level in the counties and communes. The commercial departments signed contracts with production teams and commune members.

--The collective arranged for the feed grains needed by commune members to raise hogs. The production team allocated and kept the feed grains uniformly and distributed them uniformly. Whoever raised hogs received feed grains.

--Each locality implemented some economic subsidies according to the actual situation. For example, some production teams subsidized 1 jiao or one work point for selling 1 jin of fattened pork. In other cases, the province subsidized 5 jiao, and the county, the commune and the brigade each subsidized 5 jiao for each piglet born by a sow of the collective.

9296
CSO: 4007/366

WORK ON ROOT NODULE BACTERIAL MANURE HIGHLIGHTED

Beijing GUANGMING RIBAO in Chinese 21 Apr 82 p 2

[Article by Wang Desheng [3769 1795 3932]: "Effectiveness Outstanding in Research and Promotion of Root Nodule Bacteria Bacterial Manure by Liaoning Provincial Academy of Agricultural Science's Institute of Pedology and Fertilizer Assistant Researcher, Ma Linxiang [7456 7792 4382]"]

[Text] For 4 consecutive years, Ma Linxiang, assistant researcher in the Institute of Pedology and Fertilizer of the Liaoning Provincial Academy of Agricultural Sciences has carried on the study and promotion of soybean and peanut root nodule bacteria bacterial fertilizer, winning outstanding results.

Back in 1966, Ma Linxiang began the study of root nodule bacteria bacterial fertilizer for pulses and other crops, including soybeans, peanuts, peas and clover. Through arduous and intensive research, he was able to painstakingly sift from among 33 root nodule bacterial strains five highly effective bacterial strains that were suited to different regions, different soils, different crops, and different varieties in Liaoning Province. In December 1981, these underwent appraisal and approval by leadership units concerned in the province, and by national experts in the same field who agreed that this scientific research accomplishment met rather advanced domestic standards. Now it has been provided to four root nodule bacteria preparation plants inside and outside the province as fine variety bacterial strains. Ma Linxiang gave up a great many holidays and leave periods to go into individual cities (prefectures), counties (regions), communes (farms), and brigades. He traversed the 44 bacterial manure cooperative network sites all over Liaoning Province, both conducting investigation and research and carrying out technical promotion, and in the cities and counties of Shenyang, Jinzhou, Heishan, Xinjin, and Benqi, he gave speeches on eight different occasions to technical training classes, experience exchange meetings, and academic discussion meetings. He also trained more than 600 mainstay cadres for the promotion of bacterial fertilizer. Additionally, he wrote, in cooperation with others, 11 academic treatises and scientific materials totaling 35,000 words, which have played an active role in guiding the promotion and application of soybean and peanut root nodule bacteria bacterial manure.

Use of root nodule bacteria bacterial manure on soybeans and peanuts is characterized by low cost, high benefits, quick results, and great effectiveness, and it has been well received everywhere. Costs per mu are only 0.44 yuan, but net earnings obtained can be as high as more than 10 yuan. Not only does it improve protein content, but effectiveness in increasing yields is outstanding. In 1979, root nodule bacteria bacterial manure was used on only 34.5 mu of pulses and peanuts in Liaoning Province. In 1981, this suddenly increased to 900,000 mu for increases in soybean yields averaging 29.9 jin per mu (a 10.5 percent increase), and an increase in peanut yields of 37.6 jin (a 9.8 percent increase). Increases in output of soybeans and peanuts totaled 29 million jin, and net earnings of about 9.4 million yuan were obtained.

In recognition of this outstanding accomplishment in this bacterial manure research and promotion work, Ma Linxiang received a commendation from the Shenyang Municipal Microbiology Society in 1980, and in 1981 the Liaoning Provincial Academy of Agricultural Sciences designated him an advanced worker.

9432
CSO: 4007/383

BRIEFS

NINGXIA RICE PRODUCTION--The Ningxia Huang He diversion irrigation area grows rice on 700,000 mu and is an old rice-growing area. Ever since the 1970's, all levels of farm technique promotion units, and research and education units in the irrigation area have cooperated closely, using various kinds of methods in vigorous promotion of newest research results. They have also summarized and upgraded traditional farming techniques of the peasant masses such as selection of fine varieties, beginning sowing in good time, culturing of sturdy seedlings, and use of chemicals to get rid of weeds. This has brought about steady increases in rice production levels and made possible consistently high rice yields over a wide area. In the 1970's, yields were only 616.7 jin per mu, but reached 975 jin per mu in 1981 for an output totaling 698.55 million jin, an all-time high for the irrigation area. In addition, five counties had rice yields of more than 1,000 jin per mu. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Apr 82 p 2] 9432

CSO: 4007/384

WHEAT FIELD MANAGEMENT STRENGTHENED

Beijing RENMIN RIBAO in Chinese 10 Apr 82 p 2

[Article: "Localities in Shaanxi Strengthen Management of Wheat Fields, Over 24 Million Mu of Wheat Generally Grow Well"]

[Text] Cadres and commune members of the localities in Shaanxi province have actively strengthened management of wheat fields, intensified spring hoeing, raking and sidedressing, and irrigation. At present, the growth trend of over 24 million mu of wheat throughout the province is generally better than past years.

During autumn planting last year, the localities in Shaanxi paid attention to economic crops and suitably increased the planting of food grains crops. This year, the total area of wheat throughout the province has been increased by 890,000 mu over the previous year.

To seize bumper harvest of wheat this year, Shaanxi Province has emphasized two tasks. One is the implementation of the agricultural production responsibility system. It has mobilized the productive enthusiasm of cadres and the masses. The second is paying attention to scientific management of wheat. Since the beginning of this year, the Provincial Chinese Communist Party Committee of Shaanxi Province and the provincial people's government have organized experts and professors of Wugong Agricultural Science Research Center twice to go deeply into the fields to inspect the growth of wheat, and they have proposed measures for management of the wheat fields. Each locality and county has also conducted widespread technical training of cadres, commune members and scientific and technical personnel, and strengthened technical guidance in field management. At present, the whole province has already irrigated 5.47 million mu of wheat fields in spring, an increase of over 1 million mu over the same period last year, and spring hoeing and raking have also progressed more rapidly than last year. Spring application of fertilizers was also grasped more tightly. The area sidedressed reached more than 10 million mu. Now, wheat in the main wheat producing region of the Guanzhong Plain has already germinated and jointed. Because sowing was timely and management was refined, the growth trend of more than 11 million mu of dryland wheat throughout the province is prosperous. The foundation in sowing the wheat fields in the irrigated area of 10 million mu was poor, but management was in time and the growth trend is improving.

9296
CSO: 4007/366

USE OF AGRICULTURAL ZONING TO PLAN FARM MECHANIZATION DISCUSSED

Xian SHAANXI RIBAO in Chinese 15 Feb 82 p 1

[Article by Correspondent Wang Yougen [3769 0645 2704] and Reporter Hu Meiyu [5170 5019 1342]: "Ankang Prefecture Farm Machinery Zoning Pilot Project-Wins Good Results"]

[Text] Ankang Prefecture's Farm Machinery Bureau has devoted serious attention to farm machinery research, and has actively launched zoning work on mechanization for agriculture and for economic diversification to win good initial results. Their experiences in the Pingli County pilot project farm mechanization zoning research have received serious attention from higher authorities and units concerned.

For many years in the process of developing farm machinery in Ankang Prefecture, because zoning work did not keep pace, the purchase and promotion of farm machinery lacked scientific basis, and contained a certain element of blindness. This has led to many farm machines now being "dead in a shed," and some have been scrapped, causing waste, while agricultural and economically diversified production and processing urgently in need of farm machinery has had to rely on hand operations. As a result production has developed slowly, and the contradiction of agriculture and sideline occupations competing for labor has gone unsolved for a long period of time. Following the Third Plenary Session [of the 11th Party Central Committee], the Ankang Prefecture farm machinery system conscientiously summarized this lesson of experience, and recognized the important role of farm machinery zoning work in development of farm machinery endeavors. In November 1979, the Prefecture farm machinery bureau organized manpower to begin work on the Pingli County pilot project on farm mechanization zoning. First they went through a large amount of original materials to make a major investigation and analysis of natural conditions in the county with a close bearing on farm mechanization, and of socio-economic conditions and the agricultural production situation, after which they divided the entire county into three mechanization districts on the basis of different characteristics, and carried out exploratory studies on each of them. In the course of explorations, they conducted discussions about the emphasis, methods, and steps to be taken in agricultural mechanization in the short term and over the long term in each mechanization area, and they worked out a system of complete sets of farm implements for use in the fileds, on farms, for plant protection, for hauling, for drying, for irrigation

and drainage, for the capital construction of farmland, for economically diversified production, and for the processing of agricultural sideline products. They also conducted special discussions about problems in the mechanization of tea, wood fungus, raw lacquer, and medicinal herb, which are the four staple native products. After the zoning work unit had worked for more than 5 months, it came up with a comprehensive zoning of farm mechanization in Pingli County, prepared a farm machinery comprehensive zoning map and 12 factorial maps, completed 27 different kinds of pertinent data and statistical tables, and wrote four special articles.

Results of zoning research provided a scientific basis for the county's agricultural mechanization, pointed the way to correct development, and provided new items for research in development of farm machinery. Following an interrelated program of zoning, planning, and implementation, some agricultural and economically diversified production and processing experiments have been conducted on the basis of zoning requirements, and the county farm machinery company has readjusted its farm machinery purchase and sales programs on the basis of zoning requirements.

9432
CSO: 4007/289

FLOOD DAMAGE REPAIR, WATER FACILITIES IMPROVEMENT REPORTED

Xian SHAANXI RIBAO in Chinese 5 Feb 82 p 1

[Article by Qin Shui [4440 3055]: "Heartening Achievements in Farmland Water Conservancy Construction in Shaanxi Province Last Winter"]

[Text] Last Winter farmland water conservancy construction in Shaanxi Province reversed a situation of continuous decline during the past several years to make new progress. Statistics from departments concerned show an increase by more than 100,000 mu in the effectively irrigated area, the leveling of 310,000 mu of land in the irrigated area, the building of 100,000 mu of fields from which a harvest can be assured despite drought or waterlogging, and the new building of 128,000 mu of "four fields," all of which was greater than during the winter of 1980.

Reasons for these achievements were, first of all, diligent strengthening of all levels of leadership. All prefectures (or municipalities) and counties summarized the lessons of experience of previous years, eliminated the effects of "leftism" from farmland water conservancy construction, and unified their ideological perceptions. In late fall and early winter, they made specific deployments. In Shanluo Prefecture, mobilization was done level by level from the prefecture down to production teams. Numerous county and commune leadership comrades went down to the grassroots to give on-site guidance, and to work together with the masses. Second, cadres and the masses in Hanzhong Prefecture and in central Shaanxi learned a lesson from the particularly severe flood, and realized that a good job of farmland water conservancy construction is one of the major elements in improving ability to cambat disasters. After summarizing the lessons of experience, they set about repairing the water damaged projects with great zeal. Hanzhong Prefecture began work to restore water-damaged projects at more than 6,800 sites, finishing the job on more than 2,300 of them. They restored 136,000 mu of water-damaged farmland. Irrigation has been restroed to 15 of the provinces 18 irrigation districts larger than 10,000 mu. Baoji municipality started work on 640 of them. It restored an irrigation area of 630,000 mu, and irrigated 310,000 mu more than during the previous year. Third was fairly complete arousal of the masses. In Qianyang County last winter, 80 percent of the production brigades, and 65 percent of the production teams began to repair fields and level the land. Thirty percent of the workforce in the county got underway on 5,900 mu, completing work on 4,900 mu. Last year a

total of 580,000 mu in the irrigated areas of the province were leveled, more than half of it during the winter season. Fourth, institution of a agricultural production responsibility systems played an advancing role. In all places in which various forms of responsibility systems had been put into effect early and well, farmland water conservancy construction was universally well done. After Dingbian County instituted a "double contracting" responsibility system, it vigorously developed construction of small wetland gardens served mostly by dug wells and wells with waterwheels, overfulfilling twofold its assigned expansion of the effectively irrigated area. In the five gravity-flow irrigation areas, 35 pumping stations, and more than 1,000 wells in the county, Huayin County established management responsibility systems that improved benefits from existing water conservancy facilities.

9432
CSO: 4007/289

MEANS OF MOTIVATING WORK CONTRACTORS TO IMPROVE FIELDS DISCUSSED

Xian SHAANXI RIBAO in Chinese 3 Feb 82 p 1

[Article by Yu Yan [7625 7159]: "Farmland Capital Construction Achievements Great, Quality High and Pace Fast. Shimen District CCP Committee in Luonan County Studies New Situation and Uses New Methods To Solve New Problems"]

[Text] The Shimen District CCP Committee in Luonan County has studied the new situation and adopted new methods to break the low-ebb situation in which farmland capital construction has languished since the institution of various responsibility systems. In November 1981 alone, newly built basic farmland amounted to 2,141 mu, more than double the amount required by the county, and more than 3 times as much as was done in 1978 when the most field building in recent years was done. Plot by plot measurement and examination preliminary to acceptance shows quality to be very good, investment small, and the pace fast.

An overwhelming majority of fields in this district are in the mountains, and most production teams practice the system of responsibility wherein peasant households assume full responsibility for task completion. So how is the capital construction of farmlands to be done? In the course of survey, the district CCP committee learned that following assignment of responsibility for task completion to peasant households, commune member needs for the building of fields was not less but more urgent. Peasants simply feared that the responsibility system would not endure, so they did no real work on the land. On the basis of these findings, the district CCP committee made a new regulation, namely, that in the case of newly built land resources, fixed output quotas would not change, quotas to be surrendered to higher authorities would not change, and the portion of greater earnings resulting from increased output would revert entirely to the producers. Once a form of a system of responsibility became established, when readjustment was necessary for individual plots that had been contracted for, the production team would pay just compensation for capital construction to whomever had renovated the land. In addition, it roused cadres and party members to act at once to take the lead in construction. This allayed the masses' concern. Commune members said, "The land belongs to the production team, but if we grow more grain on it, it is ours, so it is better to fix it up a little." Very quickly a bustling situation in which every household in the district was engaged in a project occurred, with people vying with each other to improve the land.

In the course of the survey, the Shimen District CCP Committee also discovered that formerly during the "mass competitions," most of the land that was improved was large plots, while quite a few odd bits and pieces and marginal, infertile land was virtually forgotten for many years, quite a bit of it becoming wasteland. After the practice of assignment of responsibility of peasant households for task completion, virtually every household had some of this kind of land for which the potential was very great. Proceeding from this reality, the district CCP committee stipulated that current farmland capital construction projects should be mostly on small parcels, and the form of organization principally households. In addition, the district's communes came up with 11 projects with great potential for increasing output. After unified planning was done, commune and brigade cadres went to every household, assigning tasks household by household, assigning plots, and stipulating quality and time for completion, providing for action by every household under a unified plan. The Zhangwan No 1 Production Team had an 0.3 mu plot of slopeland, which the production team had considered renovating for several years but feared the work required would not be worthwhile. This year after commune member Song Zhenmin [1345 2182 3046] contracted to farm it, he fixed up an area 8 meters long by 4 meters high by 1 meter wide to turn the slope into a field with consistent yields.

In view of the new situation of numerous small, scattered projects following assignment of responsibility for task completion to peasant households, the district CCP committee was particularly attentive to change in its work style to do a solid job. It also instituted a system of commensurate rewards and penalties for cadres and commune members. After each commune and brigade assigned tasks household by household on the basis of production requirements and capabilities, it had each production team send cadres to measure and check, plot by plot, the land that each household had renovated according to unified standards prior to acceptance, giving rewards for those that had been improved beyond standards, and fining those whose improvements fell below standards. It instituted corresponding rewards and penalties for the cadres in each production brigade responsible to the state for the contract. Hongyangou Production Brigade was responsible for improving 33 mu, but when a survey was made in midcourse, less than 14 mu had been done. The cadres responsible for the brigade were so upset they could not get a good night's sleep, and before dawn they went to each household to do their jobs. As a result, a total of 36 mu was completed. More wonderful was that in each commune several commune member households worked together to improve the field in a new development. For the contiguous fields they had contracted to work, they did unified planning and had unified requirements; each family working separately to treat the fields as a single tract, with very good results.

9432
CSO: 4007/240

ESSENTIALS OF WINTER WHEAT, RAPE CARE OUTLINED

Xian SHAANXI RIBAO in Chinese 31 Jan 82 p 1

[Article by Science Education Department and Production Department, Provincial Agricultural Commission: "Use Scientific Attitude for Good Spring Care to Win Bumper Harvests of Summer Grain and Oil-Bearing Crops. Provincial Agricultural Experts Make Suggestions About Springtime Field Care of Wheat and Rape"]

> [Text] Editor's Note: Winning a bumper harvest in summer grain and oil-bearing crops is the main task for this year's agricultural production. Simultaneous with stabilizing and perfecting systems of responsibility for agricultural production, all prefectures should strengthen leadership for springtime field care of wheat and rape, make the most of the role of scientific and technical personnel, and use pertinent management techniques. If the time for field care is not to be lost, it must be given strict attention. Ever since the beginning of winter, the province has had but scant rain and snow, so a high degree of serious attention must be given to guarding against and combating drought.

On the eve of the lunar new year, several of the province's farm experts wrote letters to the Agricultural Commission putting forward suggestions about field care of spring wheat and rape. The Provincial Agricultural Commission felt these suggestions to be valuable and worthy of consideration by all jurisdictions.

In his letter, Provincial Academy of Farming and Forestry assistant research fellow and wheat expert, Gong Rende [7895 0088 1795] said that from the looks of wheat growth in the Yangling region of Wugong County, the major contradiction at the present time is still insufficient accumulated temperatures, which means small and weak seedlings. He pointed out that springtime wheatfield care required attention to five technical measures as follows: (1) Early harrowing and hoeing in spring to promote early development of seedlings so that spring growth makes up for winter weakness. Spring harrowing and hoeing helps raise ground temperatures, preserves soil moisture and prevents drying out, and

promotes root tillering for very noticeable results in these regards. These actions were taken too late in previous years, usually after the lunar new year or even after the 15th day of the first lunar month, between 10 and 20 days later that actually required. This year there should be early mobilization, early arrangements and early action. (2) Top dressings of fertilizer in early spring. On most large areas, fertilization is still insufficent, and early top-dressings of fertilizers to stimulate tillering and increase in the number of spikes, increasing by between 30,000 and 50,000 the number of spikes per mu is entirely possible. While the soil is moist, fertilizer should be applied early and deeply. In some high yield areas, the quantity of basic fertilizer and winter topdressings has already been very great, so the soil is by no means lacking in fertility, in which case there is no need for topdressings in early spring. (3) Early spring irrigation should be done. Generally speaking, early spring irrigation should be promoted in central regions of Shaanxi. This is because the irrigated area's fertility foundation has been remarkably increased, and fertilization with large quantities of chemical fertilizer can guard against defertilization. However, early spring irrigation still has to be prudently handled, and particular care must be taken in some very infertile places. However, if there was no irrigation and scant rain or snow during winter, and loose soil is very thick on the surface of the ground at the time of lunar new year, aridity being rather obvious, irrigation should be done. Irrigation should be done in concert with topdressings of fertilizer, and after irrigation has been completed the hardened surface of the soil should be broken up. If there is moisture in the soil at the time of thawing, spring irrigation should be delayed for as long as possible. In the west central region of Shaanxi Province, it may be delayed until early or mid-March. (4) In dryland wheatfields where rainfall was scant during the winter season and the soil is lifeless at the time of lunar new year, the loose layer of soil being very deep, compacting is needed to promote root development and greening up. If winter snows have been plentiful, and soil moisture is great at the time of thawing, harrowing should be done in early spring to maintain basic soil moisture and promote early greening up of the wheat. (5) This year wheat seedlings have been universally scanty, mostly because of little tillering, so action has to be taken to promote tillering and increase the number of spikes.

Provincial Farming and Forestry School teacher and wheat expert Zhang Qipeng [1728 0796 7720] said in his letter that wheatfield care should "promote early growth of weak seedlings, skillfully care for strong seedlings, and control vigorous seedlings so they do not produce runaway growth." He said that because of the large amount of overcast and rainy weather when the wheat was planted last fall, seeds were sown in muddy, watery wheatfields in some irrigation areas. This, plus the overly low temperatures of October and November, caused three problems for wheat growth. First was a tendency toward smallness of colonies. Second was a tendency toward weakness of individual plants. Third was insufficient balance. In irrigation areas, these conditions exist in about one-third of the fields. How can they be controlled? He noted that the job to be done in spring care of wheat is to assure numerous, large spikes and sturdy stems that do not lodge, the emphasis going to promotion of spikes and formation of spikes. He proposed four specific ways of doing this. First is a good job of loosening the soil and preserving soil moisture. Second is deep application of fertilizer. In view of wheat seedling growth characteristics, the

thing to do is "fertilize early rather than late; fertilize deep rather than shallow; and fertilize when the soil is wet rather than when the soil is dry." As soon as the soil has thawed, while the soil is still moist, opportunity should be taken to fertilize in rows or in clusters. Third is prompt watering. In the case of fields lacking in soil moisture where seedlings are weak, when temperatures return to 3 to 5 degrees Centigrade, a light watering for greening up should be done, and after watering the soil should be loosened. Fourth is strengthening of leadership. When each county convenes its meeting of cadres from three levels, wheatfield care assignments should be made.

With respect to springtime care of rape, Provincial Farming and Forestry Institute assistant research fellow and rape expert Zhuang Shunqi [8369 7311 3825] said that the emphasis should be on maintenance of increased blanching of stems and increasing grain weight. As a practical matter, care techniques required were of three kinds. (1) Cultivation of the soil as soon as it is no longer frozen to maintain soil moisture, to loosen the soil, and to increase its temperature. Spring irrigation may be delayed until shoots begin to form for early development and growth. During the period of formation of shoots, cultivation and hilling around plants to support the roots should be done in combination. (2) During the period of greening up, early cultivation and greening-up fertilization should be done, a single fertilization sufficing. Depending on soil fertility about 30 jin per mu of standard nitrogenous fertilizer should be applied, together with 200 jin of grass and wood ashes (cooking pit ashes). The fertilizer and ashes should be applied in a ditch or put into the ground with a drill. (3) During springtime, prevention of insect pests should be done at least twice.

9432
CSO: 4007/240

STATUS QUO FOR EXISTING CROP PATTERNS SUPPORTED

Jinan DAZHONG RIBAO in Chinese 9 Mar 82 p 2

[Article by Commentator: "Equitable Arrangements for Growing of Crops Under Guidance of State Plans"]

[Text] Equitable arrangement of agricultural crop patterns under the guidance of state plans for coordinated development of production of all kinds within agriculture is a major aspect of national economic readjustment. Since the Third Plenary Session of the 11th Party Central Committee, throughout the province general methods have been adapted to local situations to make the most of advantages in readjustment of the internal structure of agriculture. The area of the province sown to economic crops in 1981 increased from somewhat more than 21 million mu in 1978 to somewhat more than 27 million mu, the proportion of total area sown expanding from 13.3 percent to 17.8 percent. For the major economic crops, cotton and peanuts, all-time highs were exceeded in both area planted and output. Readjustment of crop patterns has promoted all-around development of agriculture. Gross agricultural output value for the province as a whole has increased from 11.3 billion yuan in 1978 to more than 14 billion yuan in 1981, an increase of 23.9 percent. Development of economic crops has played an important role in assisting national construction, in expanding foreign trade and exports, in guaranteeing things needed by the military and used by civilians, and in increasing collective and commune member income. Analysis on the basis of natural conditions, population density, the present state of the proportion of cultivated land, and historical development, shows that the present agricultural crop patterns in Shandong Province are substantially equitable following several years of readjustment. Henceforth, except for a little readjustment still required by a minority of units, the overall planting area should be maintained substantially the way it now is, and the emphasis should go to improvement of yeilds per unit of area and to improving specie quality in an effort to improve economic benefits.

The agricultural economy is a major integral part of the entire national economy, and it is necessary to adhere to a program in which the planned economy is foremost, market regulation ancillary. During the previous stage, after emphasizing respect for the self-determination of production teams and instituting various forms of production responsibility systems, a situation developed at various places of "grow whatever is profitable" in planting and of "sell to whomever pays the msot money" in the sale of agricultural products, with no consideration

of the country's need, no obedience to state plan guidance, and no honoring of contracts. This is a problem deserving of extremely close attention. It should be recognized that under the past "leftist" ideological guidance, we did not seek to adapt general methods to local situations, but practiced the growing of a single kind of crops, and elbowed economic crops aside, impairing the bringing into play of advantages everywhere and the earnings of the masses. This was a painful lesson. Marxism tells us that all things are mutually related and mutually restrictive, and that after a certain limit is exceeded, a change in the opposite direction begins. When truth goes a step too far, it becomes falsehood. This is likewise true for the readjustment of agricultural crop patterns. When it goes against natural laws to exceed objective needs and capabilities, it also gives rise to an opposite reaction. Unless we limit expansion of the economic crop area, a great reduction in the grainfield area will be created, and it will become impossible to assure the fundamental needs of the country and the people for grain, while at the same time development of certain economic crops may exceed the extent of growth of processing and transportation capacity creating overstocking and waste, a new proportional imbalance taking place that may even urgently require further readjustment. Such would be extremely disadvantageous for development of the agricultural economy and the economy of the entire country. Consequently, we must equitably arrange the growing of crops in accordance with requirements layed down in the state plan, diligently handling this matter as a strategic issue in development of the agricultural economy.

Shandong is a large province with a population of more than 70 million in which the problem of getting enough food to eat is a large one. Its grain production has yet to be solved, and the contradiction between production and demand is still rather prominent. Use of grain to meet the annual natural rate of population increase, for the livestock industry, for industry, and for other purposes requires year by year increases. Today, in a situation in which our material and technical situation is limited, when the damage done by natural disasters is fairly great, and when grain yields per unit of area cannot be greatly increased for the time being, it is all the more necessary to maintain a prudent attitude about decreasing the grain growing area. Of course, when we expand the economic crop area, the state allocates grain to us, but there are definite limits to this, after all. We must base ourselves on a foundation of self-sufficiency in grain within the province. This is the premise that we must first consider in readjustment of the agricultural crop patterns.

In the development of agriculture, it is necessary conscientiously to institute a policy of "positively no slackening of grain production while actively developing economic diversification." In planning the crops to be grown, all jurisdictions must submit to the situation as a whole; both making of the most of their own advantages, and proceeding from the situation as a whole; both considering how to make the most advantage of economic crops, and considering how to make the most advantage of economic crops. This year the grainfield area must first be stabilized at its present level with no further reductions, and efforts are to be made to increase yields per unit of area for both grain crops and economic crops for a steady improvement in levels of average per capita grain production. In the development of economic diversification, most important is use of barren slopes and wasteland beaches, the water surface of ponds, the shores of lakes and oceans, and the four besides [beside roads, streams, houses, and villages, and the 10 sides [small plots of land of many kinds] with no encroachment on grainfields. Wherever the land is suited to the growing of grain, the

overall situation must be taken into consideration and the general interest recognized, active development of grain production being done in accordance with state plans in order to have the honor of providing the country commodity grain. Likewise in areas that grow predominantly cotton, it is necessary first to assure grain self-sufficiency for the agricultural population and to achieve complete self-sufficiency with all possible speed. Provided requisition grain procurement quotas have been fulfilled and task completion obligations have been fully met, other areas may develop economic crops as appropriate. In a situation in which the farflung rural villages have instituted various forms of production responsibility systems, and particularly in places and units that practice production responsibility systems of fixing output quotas on a household basis or fixing full responsibility for task completion on a household basis, more attention is required to solve this problem well. The way is to enhance state planning guidance for the growing of crops, using economic contracts to dovetail the production activities of the collective and of individual commune members with state plans, implementing state plans in each and every production unit, and peasant household, and on individual commune members, leading to peasant development of production on the basis of national needs, prevention and correction of blindness and lopsidedness in production, and preservation of mass enthusiasm for socialism.

In promoting various forms of production responsibility systems, we are developing systems of responsibility for the socialist rural economy. In respecting the self-determination of production teams, we are respecting self-determination to obey state plan guidance, the goal being arousal of collective and individual commune member enthusiasm. After long tempering in revolution and construction, the broad masses of commune members in the province wholeheartedly support socialism. It is subjectivist blind guidance and irrational burdens that they oppose, it positively is not the party's leadership and state plan guidance. All levels of CCP committees, the government, and grassroots cadres in the farflung rural villages must enthusiastically organize the commune member masses and, under guidance of the state plan, combine the needs of part of society and of society as a whole, correctly handle the interests of the country, the collective, and individuals, and equitably plan the crop growing area for greater development of grain, of economic crops and of economic diversification to win an all-around bumper harvest in agriculture this year.

9432
CSO: 4007/347

LOCAL PROCESSING OF FARM PRODUCTS ENCOURAGED

Jinan DAZHONG RIBAO in Chinese 7 Mar 82 p 1

[Article: "Devote Earnest Attention to Local Processing of Agricultural By-products"]

[Text] Basing oneself on local resources for energetic development of agricultural product processing industries, and taking the path of adding value several times from production to processing to marketing is a major way in which to increase the agricultural commodity rate, and to increase both collective and commune member income. All jurisdictions should treat this issue as an important matter and take it diligently in hand to produce results.

Ours is a vast province with superior natural conditions in which the potential is very great for use and development of resources. During the past several years in particular, rural economic diversification has developed rapidly, and economic crops such as cotton and oil-bearing crops have tremendously increased output to open broad prospects for development of agricultural products processing industries. Staples include grain, cotton, and oil, dry products [such as nuts, wood fungus, and lily buds] and fresh fruits, as well as aquatic products, all sorts of vegetables, and grasses and willow used for plaiting, etc. If these resources could be fully used for local processing, both the commodity utilization rate and their economic value could be increased and state, collective, and individual earnings increased, and difficulties in marketing, storing, and hauling products could be diminished for a genuinely fine situation of killing many birds with a single stone. However, some rural communes and brigades have yet to emancipate themselves from the past old rigamarole of single crop production and sale of agricultural raw materials, and the scope of their processing of agricultural products is very small. As a result many products that might be processed locally are hauled away from rural villages to cities as raw materials and then hauled back and sold in rural villages after processing. A trip out and a trip back both increases pressures on transportation, and increases costs, which is very much not worthwhile. Consequently, we must follow rational economic principles and vigorously develop commune and brigade agricultural product processing industries in a fundamental reversal of this irrational situation. It should be realized that for commune and brigade development of agricultural by-product processing industries the raw materials are ready made and the workforce abundant. Furthermore much is processing of products to eat, to wear, or to use, and generally speaking, investment required is small, results show quickly, and markets for products are good. Such industries can

steadily develop over a long period of time and are superior in many ways to development of industries that rely solely on "looking for rice to put into the pot." Once the focus of production has been shifted in this direction, commune and brigade enterprise's production will have more vitality.

Operation of agricultural by-products processing industries requires adherence to the principle of solid, steady development. All jurisidctions will have to adapt general methods to local situations to carry out a resources survey and arrange priorities for products, proceed from existing realities, formulate development plans and implement measures, have a central focus and work step by step, with positively no rushing headlong into mass action or blindly blundering ahead. Planting and breeding industries, and economic diversification are the foundation for agricultural product processing; thus, formulation of plans must be closely combined with these two things, and particular attention should be given the building of planting and breeding bases using planting and breeding to protect processing and using processing to promote planting and breeding so that planting, breeding, and processing form a coherent whole for coordinated development. The foundation for rural agricultural products processing industries is presently weak and requires support from all sides. Industrial units can organize techniques and equipment to go to the countryside to work jointly with communes and brigades. All jurisidctions should act in accordance with state plans for supply to communes and brigades of various agricultural products for processing, setting suitable base procurement figures and proportion for amounts procured and amounts regained to achieve both assurance of fulfillment of state requisition procurement and quota procurement tasks, and take care of commune and brigade requirements for the development of processing industries. Attention should be given the training of technical forces for steady improvement in quality of agricultural product processing. In addition, as production develops, efforts should be made to open circulation channels and do a good job of supply and marketing to impel commune and brigade enterprises to steadily walk the path of a combination of planting, breeding, and processing, carrying on production, supply, and marketing as a coherent whole to win greater economic benefits.

9432
CSO: 4007/347

EFFORTS CONTINUED TO FIND, STORE WATER DURING PROTRACTED DROUGHT

Jinan DAZHONG RIBAO in Chinese 9 Mar 82 p 2

[Article by Chun Pu [2504 0944], Tsng Nian [0681 1628], Lin Qi [2651 3305] and Xi Xiang [3556 4382]: "Store More Water; Use Water Well, and Expand Irrigated Area. Weifang Prefecture Stirs the Masses to Combat Drought and Protect a Bumper Harvest"]

[Text] Weifang Prefecture's 250,000 people have pitched in to use every means possible to tap water resources to combat drought and protect the wheat to win a bumper harvest. At the present time work has been completed on 4,618 of the prefecture's 6,823 water conservation projects on which work had been started. Newly sunk wells number 1,472, increasing and improving an irrigated area of 700,000 mu.

For the past several years Weifang Prefecture has had continuous drought. Since January this year, rainfall has been 46 percent less than during the same period in most years. Analysis of measurements of soil moisture show a drought area covering 8 million mu including 3 million mu of wheatfields. In order to triumph over the drought, since last year, prefecture and county leadership organizations have organized more than 10,000 people into work teams to go everywhere to arouse the masses to use every available means to tap water sources. Many counties and communes have organized forces to dam places along rivers or cut off the flow of phreatic water, directing the water to replenish sources. They have built a group of rudimentary water pumping stations, using multiple level water raising methods to make maximum use of both the visible and the phreatic water in river beds. Places that cannot be watered for the time being are cycling use of water. They first raise the water to fill ponds at the bends of streams or water pits by way of preparing sufficient water sources for further watering of the wheat or for doing spring sowing. Statistics from Yidu, Zhucheng, Anqiu, and Linju counties show that this method is being used to store more than 10 million cubic meters of water. On plains areas where wells can be sunk, special teams were organized to sink pump wells. In coastal, mountain and hill, and underground red callys areas, large mouthed wells continue to be sunk, and rectangular pools, gallery wells, and small pressure wells are being dug. Recently Pingdu County organized more than 30,000 workers to begin work on more than 600 small water conservancy projects of various kinds requiring little investment of funds for quick results. Now 450 of them have been completed, more than 50 pump wells dug, and an irrigated area of more than 60,000

mu newly added or improved. Gaomi County has used regulations at every level to formulate and implement a bonus policy for digging for water. In less than 1 month following the lunar new year, 1,000 newly dug pump wells or large mouth wells were opened in the county, pumping stations were built at 11 sites, and rivers were dammed or diverted at 68 places. In addition, while digging for water and storing water, all jurisdictions have taken active measures for the conservation and scientific use of water.

9432
CSO: 4007/347

COTTON PLANTING AREA STABILITY, SINGLE CROP INCREASE EMPHASIZED

Beijing RENMIN RIBAO in Chinese 8 Apr 82 p 2

[Article: "Correctly Handle the Relationship Between Food Grains and Cotton, Implement This Year's Cotton Planting Plan; Shangdong Emphasizes Stabilizing the Area To Increase Unit Yield"]

[Text] Report by NEW CHINA NEWS reporter Jia Jianzhou [6328 1696 5297]: While implementing this year's cotton planting plan, the Provincial Committee of the Chinese Communist Party in Shandong and the provincial people's government repeatedly emphasized that each locality must correctly handle the relationship between food grains and cotton, stabilize the area, place major efforts on unit yield, increase total yield, and seize double bumper harvests of food grains and cotton.

After the Third Plenary Session, each major cotton producing area in Shandong Province started out by developing the natural superiority of the locality, actively and steadily readjusted the proportion of food grains and cotton, expanded the area of cotton fields, and enabled the total yield of cotton to surpass 10 million dan consecutively for 2 years. This served importantly to guarantee that the nation's cotton production will increase in yield. The cotton farmers have also realized more and more economic benefits. This year, the enthusiasm in planting cotton by each cotton producing region in Shandong Province is very strong. The provincial committee and the provincial government believe that under the present situation under which the proportion of the areas of food grains and cotton are basically rational, future attention should be paid to stabilizing the area of cotton fields and to exert major efforts in unit yield, in increasing total yield and in seizing overall bumper harvests. In particular, major efforts should be in increasing the unit area yield.

Data provided by concerned departments indicate that the potential to increase the unit yield of cotton in Shandong Province is great. Last year, the average per mu yield of 30 counties was lower than the province-wide average. They had over 6 million mu of cotton fields. If the per mu yield of these cotton fields could be raised to last year's average for the whole province, total yield could be increased by more than 1.2 million dan. In addition, low yielding cotton fields could produce a large-scale increase, and even

high yielding cotton fields could continue to increase their yields. The counties of Gaotang, Pingyuan, Ningjin, Jinxiang increased their per mu yield by more than 10 jin on the basis of producing a per mu yield of 100 min last year. The provincial committee and the provincial government believe that now, the whole province has already acquired the favorable conditions to increase the unit yield of cotton. For example, the party's policies have been profoundly accepted by the people. The production responsibility system has been further perfected, and the productive enthusiasm of the cotton farmers is high. Capital construction of farmland has had new development. The ability to resist disasters has been further strengthened. Fertilizers, farm chemicals, machinery and capital have all been increased from past years. The material foundation is more abundant, etc. Therefore, placing emphasis on increasing unit yield of cotton production is consistent with the actual situation in the production of cotton in Shandong Province. At the same time, the provincial committee has requested each locality to greatly increase the unit yield of food grains so that there will be more counties, communes and brigades producing double increased yields of cotton and food grains.

Recently, the Provincial Committee of the Chinese Communist Party of Shandong and the provincial people's government held a province-wide cotton production conference in Ling County. The conference discussed problems concerning ways to increase the unit yield of cotton and proposed corresponding measures to increase yield.

9296
CSO: 4006/366

EXHORTATION ISSUED ON SIGNING OF RURAL FARM CONTRACTS

Chengdu SICHUAN RIBAO in Chinese 5 Apr 82 p 1

[Article by Commentator: "Take Firmly in Hand the Signing of Rural Economic Contracts"]

[Text] Right now all jurisdictions are in process of implementing the Central Committee documents on rural work and signing rural economic contracts. This is extremely important for assuring this year's growth of agricultural production and implementation of various plans, in carrying out policies of "concurrent concern for the three" [the country, the collective, and individuals], and in perfecting production responsibility systems.

Generally speaking the signing of economic contracts in the province's rural villages has been done better this year than last. One obvious characteristic has been that large numbers of leadership comrades in the province, prefectures, and counties have personally taken charge. Not only did they start early, act quickly, and take matters firmly in hand, but work was also solidly done. Attention should be directed to those places where progress has been slow and cases in which many contracts, particularly this year's production contract agreements, have yet to be signed. Though some have been signed, they are fairly careless or even simply a mere formality. The main reason for this is that some leadership comrades lack sufficient understanding of the importance of signing contracts, do not devote sufficient attention to them, and do not come to grips with the matter. In some places it is because some genuine problems have not been promptly handled well. Some commune members onesidedly emphasize their own benefit without being very much concerned about benefits to the country and to the collective.

Contracts are an effective assurance that state economic plans will be carried out. They are like a bond that links together the various individual links of production, exchange, and distribution to the welfare of the country, the collective, and individuals. Inasmuch as most rural villages in Sichuan Province have instituted "double contract" systems of responsibility [fixing output quotas based on households with peasant households assuming full responsibility for task completion], it is necessary to assure that state plans be carried out, that leadership of agricultural production be planned, and that there be proportional development. The most effective way of doing this is to promote contracts. Consequently, the signing of rural conomic contracts positively is not a small matter that can be done or not; rather it is an imperative matter to which efforts must be devoted and which must be taken firmly in hand. All levels of leadership comrades must have a clear understanding of this point.

The contracts that must be signed in rural villages have many aspects. The thing that is most important right now is to make sure that production contract agreements are signed as soon as possible between production teams and commune members so that contracts can be used, in advance of spring plowing, to implement this year's agricultural production plans in order to assure that production will be done in accordance with plans. After this has been done, state procurement units concerned should promptly organize to sign agricultural and commercial agreements with production teams to give reality to agricultural product procurement plans handed down by the state. No matter whether production procurement contract agreements or agricultural-commercial agreements, both should be signed in accordance with economic contract laws and pertinent provincial regulations so that their contents will be complete and procedures detailed as an aid both to conducting checks and honoring them.

A good job of signing contracts requires that work be done well and genuine problems conscientiously resolved. Further propaganda and mobilization work has to be done to increase the understanding of the broad masses of cadres and people. Ideological and political work among the peasants has to be enhanced to educate and lead them to correctly handle the three relationships to consciously sign and carry out agreements, and to strive to do their best to discharge obligations. The contracts' economic norms will be set largely in accordance with state plans, but the masses should be aroused to carry out full discussion and consultation so that the contracts will be realistic, positive and reliable, and allow for unforseen circumstances. Withholdings by the collective should be made on the basis of what local economic development permits. Tax payments are to be assured of fulfillment, and cadre allowances, care of the dependents of martyrs and military personnel as well as of households enjoying the five guarantees [childless and infirm old persons who are guaranteed food, clothing, medical care, housing and burial expenses] should be guaranteed. Contracts are to be signed on a foundation of strict attention to the perfection of responsibility systems, and the signing of contracts should be used to improve and stabilize responsibility systems.

The all-around promotion of economic contract systems in rural villages is a major reform in administration and management that touches on many matters. It has strong policy overtones and requires a lot of work. But since experience is lacking, right now strengthening of concrete leadership is urgently needed. In communes and brigades in which progress has been relatively slow, in particular, leadership comrades must go forward to help promptly study and solve existing problems, signing contracts as rapidly as possible. In places that have already signed contracts, continued checking and examinations must be done; omissions must be filled and revisions made so that the contracts do not become perfunctory.

Right now the busy season of spring farming is at hand, yet the work of signing contracts has not been completed. All jurisdictions must closely coordinate with spring farming and production by intensifying work and strive to continue signing rural economic contracts in advance of the extremely busy spring farming season to assure fulfillment of this year's agricultural production plans.

9432
CSO: 4007/388

INDUCEMENTS PROVIDED TO ENCOURAGE SOW PRODUCTION

Chengdu SICHAUN RIBAO in Chinese 8 Apr 82 p 2

[Article by Jin Yansuo [6855 1693 2747]: "Give Earnest Attention to the Raising of Sows"]

[Text] For steady and continuous development of hog raising, a certain number of sows is required to guarantee ample breeding stock. Statistics from units concerned show that as compared with the same period during the previous year, in 1981 a six percent decline occurred in the number of sows in the province. Today the ratio of sows to hogs in inventory has declined from 1981's 6.75 percent to 6.5 percent. Particularly deserving of attention is that in key commodity hog producing areas, the decline in the number of sows has been even more conspicuous. Unless vigorous action is taken at once to change this situation, inevitably Sichuan Province's hog raising will be seriously impaired. It will not hurt to do some figuring of accounts here.

The first account. At the beginning of this year, hogs in inventory in Sichuan Province numbered 50.23 million. According to forecasts from units concerned, on the basis of the number of hogs removed from inventory in 1981, the number of hogs that will be removed from inventory in 1982 will number about 33 million. In order to have the current 50 million head in inventory at the end of this year, a corresponding number of shoats will have to be added to the stys.

The second account. Sichuan Province now has 3.26 million sows. On the basis of the 1981 shoat survival rate, it is estimated that during the present year, about 29.34 million shoats will be added to the hog population. Unless more sows are raised, by the end of the year the number of hogs in inventory in Sichuan Province will number only about 46.57 million, which will mean a 7.3 percent decline from the same period last year.

The third account. In order to maintain the hog population at the beginning of next year at its present size, the province as a whole will have to raise an additional 400,000 to 500,000 sows. To meet this requirement, the proportion of sows to hogs in inventory in the province as a whole will have to increase from the present 6.5 percent to about 7.5 percent, and be no lower than 7 percent.

From the above three accounts it can be clearly seen that action has to begin right now to give earnest attention to the growing of sows.

For many years two different enthusiasms have been brought into play in the raising of sows in Sichuan Province, namely both advocacy of collective raising and encouragement to individual commune members to raise them. However, in both collective raising and raising by private individuals there have been problems in economic benefits. After shoats born of sows that peasants have raised have been sold, the peasants want to be able to make up for the materials consumed and the living labor expended in raising the sows, and they want to have certain net earnings as well. If they do not, the peasants' enthusiasm for raising sows will be damaged. In order to encourage peasants to actively raise sows and to raise them well, the state has acted to make award sales of four jin of grain for every shoat. For every sow privately raised by a commune member, collectives have alloted between 1 and 2 fen of land for the growing of fodder. At the time of distribution of feed grains, a general 50 to 60 jin of feed grain is distributed for each sow, and 4 to 5 jin for each shoat. In figuring manure provided by hog growers and distribution of green feed, the standard for calculation is generally one sow equals two fat hogs. Thus, when market prices are normal, a commune member's economic benefits from the raising of sows are generally equal to the economic benefits from raising fattened hogs. Ever since 1980, as a result of "difficulty in selling hogs," shoats have been a drug on the market, and large numbers of sows in rural areas have been sterilized. Within the space of 2 years, sows decreased by about 1 million. Even though market prices for shoats went back up last year, the number of sows raised continued to decline. In order to have consistent raising of sows, methods that production teams use to regulate hog production cannot be weakened. The former series of methods used to encourage commune members to raise hogs (including sows) must be made an important part of the improvement and perfection of agricultural production responsibility systems, and should be revived and implemented as rapidly as possible.

In the revival and implementation of the series of methods used in the past to encourage commune members to do a good job of raising sows, general methods will have to be adapted to specific situations. In places practicing assignment of output quotas to teams, contracting jobs to be done in a certain period of time, and "four specializations with a single contract," both collective and individual raising has to continue to be advocated for the development of sow production, and appropriate increases should be made in the amount of feeding done where conditions permit. Either specialized households may feed and raise the hogs, or hogs may be collectively owned but privately raised. In cases in which individual commune members privately raise sows, production teams should adhere to formerly instituted methods of providing bonuses. Nanquan Commune in Chongqing Municipality used contracts with specialized households at its collectively owned hog raising farm, combining "breeding and raising." It held to feed grain withholdings for private sow raising, making award sales of 10 jin of grain withholdings for every live shoat, and this year the number of sows has begun to increase steadily.

Production teams practicing assignment of output quotas to individual able-bodied laborers, and fixing output quotas on a household basis should adhere to a system whereby withholding of feed grain and distribution of feed grain is done centrally by production teams. Feed grains divided up for the feeding of sows should not be allowed to fall below levels prior to the practice of fixing

output quotas on a household basis. After Wan'an Commune in Shuangliu County instituted "double contracting" [fixing output quotas on a household basis and assigning full responsibility for task completion], it arranged for feed grain on the basis of the number of head raised in 1982, 60 jin of feed grain per hog being provided from feed grain withheld by production teams, and between 200 and 280 jin per sow (feed grain for shoats included) being provided. If no hogs were raised, the grain was returned to the production team. During this year the number of sows has increased throughout the commune.

In places practicing large scale assignment of responsibilities, hogs and land may be linked, a certain amount of land for the growing of fodder being assigned to commune members, depending on the number of sows they raise. In short, it is necessary to act on the basis of the new situation following institution of various forms of production responsibility systems to give tailored guidance, and to make arrangements production team by production team to reverse the present situation of continued decline in the sow population.

9432
CSO:4007/389

PROVINCIAL STATE FARM ACHIEVEMENTS REVIEWED

Chengdu SICHUAN RIBAO in Chinese 5 Apr 82 p 1

[Article by State Farm and Land Reclamation Bureau: "Experiences Summarized and Achievements Carried Forward For Further Fine Operation of State Farms. Sichuan Province's State Farm Employees Triumphed Over Exceptionally Great Flood Disasters Last Year to Win Heartening Achievements in All Kinds of Production. They Are Determined to Increase Output This Year of More Commodities to Make a Greater Contribution to the Country"]

[Text] By summarizing experiences, commending the advanced, arousing the will to fight, determinedly carrying forward achievements, and making advances in the operation of enterprises, Sichuan Province's state farm and land reclamation system farm employees have increased output of commodities and have made greater contributions to the country.

Last year, Sichuan Province was stricken with exceptionally great flood disasters, which brought serious disaster to 46 farms causing almost 4 million yuan damage. In order to make up for losses caused by the floods, all farms diligently put into force a program of "taking one industry as the primary one, with economic diversification." While operating the primary industry well, on the basis of raw materials, manpower, land, and technical conditions each farm adapted general methods to local situations to launch economic diversification and industrial sideline production, and operated processing plants for tea, fruits, and dairy products. Industrial sideline occupation output value for the year as a whole amounted to 70 percent of gross output value from agriculture. In addition, in light of the new circumstances that have arisen in the operation of integrated agricultural, industrial, and commercial enterprises, and in enterprises jointly run by state farms and production teams, they conscientiously propagandized the party's programs and policies, promptly studied the new circumstances, and solved new problems. Not only did this bring about a consolidation of integrated enterprises, but also brought about an upgrading of quality as well. In order to arouse to the full the enthusiasm of staff and workers, each farm adapted general methods to local situations to establish various forms of responsibility systems. Some farms proceeded on the basis of "three fixeds and one reward" to try out the linking of output to teams or to individuals, output in excess of quotas being divided among them. Some farms tried out the calculation of bonuses (or compensation) on the basis of output, bonuses being given for

output in excess of quotas and penalties levied for shortfalls. This directly linked earnings to staff and workers and to output and profits, and linked rights, responsibilities, and benefits to produce fine economic benefits. In addition, simultaneous with improvements in the workstyle of leaders and the carrying out of ideological and political work, each farm intensified scientific research work and the technical training of staff and workers to improve staff and workers' technical and management levels, thereby winning remarkable achievements in turning losses into profits through scientific farming and livestock raising. A comparison of 1981 with the year before shows that except for fruit output, which fell in an off year, output of major products including cow's milk, the rhizomes of Chinese goldthread (Coptis chinensis), and tea increased by between 2 and 11.8 percent. The number of yaks and sheep increased by 15.3 percent; gross output value of agriculture increased 34.2 percent; tax revenues increased 67.96 percent; and profits increased by 37.5 percent for all-time highs. Furthermore 31 advanced collectives appeared that had provided the country with large amounts of commodities, high profits, and had made great contributions. Included among them was the Huanglian Integrated Enterprise Company in Shizhu County, Jinyunshan Horticultural Farm in Chongqing Municipality, Liuli Dairy Farm in Chengdu Municipality, and Houshan Tea Farm in Shuyong County. Advanced individuals totaled 49, including He Huanzhou [0149 3562 0719], Liu Runxian [0491 3387 0341], Wang Meifu [3769 5019 4395] and Zhan Guifa [6124 6311 4099].

After having summarized experiences, staff and workers at farms in the provincial state farm and land reclamation system determined to conscientiously programs and policies for agricultural and land reclamation work, and to mobilize staff and workers to develop production through every available means to assure fulfillment and overfulfillment of this year's quotas for principal and sideline occupation production, and to provide the country with greater amounts of commodities. From leadership energies to workforce assignments, from use of funds to supply of materials, priority went to satisfying needs of agricultural production. In addition, economic diversification and processing industries were vigorously developed. Farms and all levels of management units should help integrated enterprises and enterprises run jointly by state farms and production teams to conscientiously summarize experiences for further consolidation and development. All enterprises are to strictly carry out the party's programs and policies to assure fulfillment of state requisition procurement tasks. All farms should further improve assignment of sole responsibility for financial matters, three fixed and one reward, and such various forms of production responsibility systems, properly handling the welfare of the country, of the farms, and of staff and workers, arouse staff and workers to actively improve their technical and management levels, and strive to run state farms well to make a new contribution to national socialist construction.

9432
CSO: 4007/388

MARKETS FOR FARM PRODUCTS; FARM PRODUCTS FOR MARKETS DISCUSSED

Chengdu SICHUAN RIBAO in Chinese 1 Feb 82 pp 1, 4

[Article: "One Hand on Production and the Other Hand on Circulation. Experiences of the Dazhu County CCP Committee in the Strengthening of Leadership of Finance and Trade Work"]

[Excerpts] In meeting new circumstances in rural economic development, the Dazhu County CCP Committee has diligently and intensively studied new problems in the circulation field, persevering in keeping one hand on production and the other hand on circulation. In 1981, the county's gross output of grain increased by 10.6 percent; gross earnings from agricultural sideline occupations increased 18.4 percent; and gross output value of industry increased 15 percent. Financial and trade work overfulfilled the plan for the year 56 days ahead of schedule. Up until 1978, county revenues were in the red, but as of 1981 the county had reserves of 1.6 million yuan.

Dazhu County's reliance on policies and science during the past several years has brought about rapid increase in the growth of agricultural production and a rise in the peasants standard of living. In order to further increase peasant earnings, the county CCP committee began with readjustment of agricultural production, directing production teams and peasants to develop economic diversification to increase commodity output. However, following development of economic diversification, frequently impediments in circulation channels made it difficult to sell certain goods, which impaired peasant desire to produce. Formerly some comrades did not attach sufficient importance to such problems, always supposing that if production could be kept up and goods were produced, circulation would naturally be all right. The new situation in development of a rural commodity economy has made county CCP committees realize the lopsidedness of such a point of view. Since 1979, the county CCP committee has repeatedly stressed both the need to realize that production determines circulation and that circulation reacts on production, and that under certain conditions, circulation may play a decisive role on some production. For example, as a result of the reduction in 1978 of procurement of burley tobacco and chilli peppers, which had enjoyed brisk sales, output plummeted the following year. As a result of the steady opening of markets for piemarker, procurement gave impetus to marketing, and marketing gave impetus to production, so output climbed year after year. The county CCP committee used these actual examples for repeated indoctrination of cadres at all echelons to show that in agriculture it is not enough just to work at agriculture, one has to enliven commerce as well.

The experience of Dazhu County's CCP Committee in giving attention to commodity circulation was, first of all, perseverance in the planned nature of the socialist economy and unremmitting indoctrination of the peasants in a deep love for socialism and obedience to state plans. Until such time as procurement of goods for the state plan has been fulfilled, there can be no dealing in any other channels. At the same time, provided the main channels can assure fulfillment of state procurement plans, flexible and accommodating methods may be used to develop multiple channel dealings to make full use of the supplemental role of market regulation to enliven circulation. Because it has carried out correct policies, for 4 consecutive years the county has overfulfilled state procurement plans for agricultural sideline goods. In August 1981, before the major producer of day lilies, Qingshui Prefecture, had fulfilled state procurement plans for day lilies, Miabo Commune and Brigade enterprises raised prices and bought preemptively. The county CCP committee charged the industrial and commercial executive management department with making a solemn investigation to recover the day lilies that had been bought to assure fulfillment of state procurement plans. In 1980, the county had a bumper harvest of citrus fruit, and after production teams had fulfilled requisition procurement quotas to the letter, a very big surplus remained. In recognition that citrus fruit is a perishable commodity that will rot if not promptly sold, thereby causing losses, the county CCP committee proposed dealing through multiple channels, sales being promoted both locally, and the fruit being hauled elsewhere for sale. This prevented the citrus from rotting and increased peasant earnings. In 1981 and the 2 previous years, great development occurred in rural hog production and hog procurement outpaced demand for a time. Proceeding with a desire to protect peasant enthusiasm for hog raising, the county CCP committee resolutely decided that the county food company should shoulder more of the peasants' hardships, and also began dealings through multiple channels, the 200,000 peasant households thereby each averaging sale of half a commodity hog. In 1981 the county removed 450,000 hogs from inventory and had an inventory on hand of 480,000 hogs, both of which were all-time highs.

In order that both agricultural production and economic diversification would meet market demand, the county CCP committee attached extraordinary importance to survey and study of market trends, promptly mastering market information. As a result of the practice during the past several years of a policy whereby the planned economy is dominant and market regulation supplementary, market conditions have changed greatly. The county CCP committee specially organized the finance and trade organization's various units to send people out to various places inside and outside the province to survey market needs, to strengthen market forecasting, and to provide data for the guidance of production. In 1978 when export of burley tobacco was slack and the county was preparing to cut back on production, a survey showed that in some parts of the country sales were brisk, so they revived development of burley. In 1981, not only did they sell all the burley in inventory but also concluded agreements with several tobacco plants in other provinces to sell them burley in 1982. For many years numerous places have reported shortages of nonstaples such as gluttinous rice, sesame seeds, and gaoliang. The county CCP committee told this news to production teams and peasants to encourage the peasants in economic diversification. As a result of 3 years of efforts, supplies of nonstaple grain and oil have gone from little to much. In 1981, quantity of gluttinous rice procurement rose from the 130,000 jin of 3 years previously to 2.49 million jin; quantity

of sesame seed procurement rose from 10,000 jin to more than 250,000 jin; and quantity of gaoliang procurement rose from somewhat more than 800,000 jin to 10 million jin. From the increase in output of gaoliang alone, 6 million jin of spirits could be distilled, providing the state with 1.48 million yuan in increased revenues. Increases in outputs of nonstaple grains and oils also promoted development of the food industry, enlivened markets, and improved the livelihood of the people.

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CSO: 4007/240

BRIEFS

WATER STORAGE UP--Mianyang Prefecture has taken firmly in hand the restoration of projects destroyed by water, has enhanced project management, and has bolstered its ability to store and conserve water. At present, water storage in water conservancy projects of all kinds amount to 1.428 billion cubic meters, an increase in water storage of more than 80 million cubic meters over the same period last year and two percent more than plan, creating conditions for greater growing of paddy rice this year. As a result of several flood disasters last year, projects at 25,332 locations in the prefecture were destroyed and electromechanical equipment providing irrigation at 1,621 sites was destroyed. In order to repair and restore to operating the projects destroyed by flooding, since last fall, prefectures and counties (or municipalities) have worked to strengthen leadership, have sent personnel to sites to conduct inspections, have formed different categories of units, and have done overall planning for prompt organization of the masses to conduct rush repairs. Each county and municipality also focused on the new situation of promoting various forms of agricultural production responsibility systems, changing from the past practice of investing labor to investing funds. They apportioned labor according to the irrigation area and used cash to settle accounts, thereby hastening the pace of restoration of the projects damaged by floods and assuring project quality. During last winter and this spring, the prefecture worked at a total of 20,000 different sites, completing work at more than 14,000 of them. At the same time, all jurisdictions further strengthened and perfected water conservancy management responsibility systems, and adhere to centralized control of production teams over water, water being released by "a single source." They also equitably resolved compensation for personnel charged with releasing water, and satisfactorily handled the contradictions between "doubly contracted" fields [fields for which peasant households were responsible for both fixed output quotas and full task completion], and water stored in ponds and reservoirs. [Text] [Chengdu SICHUAN RIBAO in Chinese 4 Mar 82 p 3] 9432

RESTORED IRRIGATION PROJECTS--Projects destroyed by flood waters in Dujiangyan irrigation areas have been virtually all restored. During the exceptionally great floods of mid-July last year, projects at a total of 2,078 places in the Dujiangyan irrigation area were destroyed. After the flood, the broad masses of cadres, people and employees of management departments in the Dujiangyan irrigation area bent every effort to rush repairs on some of the urgently needed projects to assure the irrigation of spring-sown

crops and water for industrial use. Beginning in mid-November last year, the large number of projects yet to be restored began to be repaired one after another. The Dujiangyan Management Bureau and subordinate management departments organized work teams to go into work areas to assist with the work. In a race against time, many civilian workers took no vacation at new year's time, and the projects proceeded very rapidly. Now, 1,803 projects in the Pingyuan irrigation area of Chengdu that had been destroyed have been fully restored, and restoration of the Mianyang, Longquanshan and Heilongtan irrigation areas in the hills has been largely completed. [Text] [Chengdu SICHUAN RIBAO in Chinese 4 Mar 82 p 3] 9432

CSO: 4007/385

BRIEFS

PLASTIC MULCH COTTON GROWING--In 1981, 50 farms in the Xinjiang state farm and land reclamation region used plastic mulch in growing cotton on 20,000 mu. Yields of ginned cotton averaged 160 jin per mu, double the average yield per mu in the reclamation area as a whole, for an increase in earnings of 1.2 million yuan. Two years of production experience have shown that use of plastic mulch in growing cotton makes full use of solar energy, improves the ecological environment of cottonfields, regulates the physical and chemical properties of the soil, promotes microbiological activity, can increase ground temperatures, conserve moisture, reduce damage from alkalinity and salinity and control weed growth, promote cotton growth and development, achieve advanced ripening, and increase output. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Apr 82 p 2] 9432

CSO: 4007/384

BRIEFS

TWO NEW RICE VARIETIES--Agronomist Deng Youcheng [6772 2589 2052], deputy director of the Chuxiong Yi Nationalist Autonomous Zhou in Yunnan Province, has bred two consistently high yielding fine rice varieties with yields of more than 1,000 jin per mu, "Chuxian No 1," and "Chuxian No 2." From the somewhat more than 13,000 mu of these varieties planted last year in this autonomous zhou, yields averaged more than 1,000 jin per mu and a maximum of 1,400 jin. [Text] [Lanzhou GANSU RIBAO in Chinese 22 Mar 82 p 3] 9432

CSO: 4007/384

IMPORTANCE OF EARLY RICE CROP UNDERLINED

Hangzhou ZHEJIANG RIBAO in Chinese 16 Mar 82 p 1

[Article: "Provincial CCP Committee Comrades in Charge Question Agriculture Experts on How to Make Full Use of the Role of Science and Technology in Grain Production. Experts Hope that Leaders on All Levels Will Attach Great Importance to the Required Grain Growing Area, Particularly the Early Rice Crop Area, Will Attach Great Importance to an All Around Linking of Measures to Form a Coherent Whole to Increase Output, and Will Take Them Firmly in Hand as Measures For Making Breakthroughs"]

[Text] Zhejiang Provincial CCP Committee secretary and deputy provincial governor, Chen Zuolin [7115 0155 7207] questioned agricultural experts on 13 March on how science and technology could be relied upon to win bumper grain harvests this year. Twenty experts from the Provincial Academy of Agricultural Sciences, Agricultural University, and the Provincial Department of Agriculture gathered together in the same room with comrades in charge at the Provincial CCP Committee where they spoke with fervor and assurance, putting forward quite a few good ideas and suggestions.

Also participating in the discussions were comrades in charge at the Provincial Science Commission, and the Provincial Agricultural Commission.

In a statement, the experiments noted that in Zhejiang Province with a large population relative to available land, grain production must be taken very very firmly in hand. Adaptation of general methods to local situations for the promotion of "a multiple crop system" and a series of corresponding farming techniques are major reasons for the province's steady increases in grain output, and it is necessary to persevere in doing things this way in future. Everyone acknowledged that even in the northern part of Zhejiang Province, where more than two crops can be grown but where the growing of three would be somewhat critical, through the readjustment of crop varieties and patterns, high yeilds from three crops could still be won.

The experts pointed out that in order to make the most of Zhejiang Province's advantages for grain production, it is particularly necessary to assure the early rice crop sowing area. This is because scientific analysis shows that 70 percent of rice output is formed following heading. The early rice crop

heads in July, which is precisely the month in which solar radiation is greatest in the province, helping the buildup of material through photosynthesis. Therefore, the early rice crop has become Zhejiang's dominant crop. We must use all available means to grow well and grow sufficient early rice.

In the course of discussions, the experts raised a dissent to the view that "this year's grain production lacks the means for breakthroughs and that hopes for increased output are not great." They said that means for breakthroughs cannot exist every year; however, every production team has weak links in production. At the meeting, the experts enumerated numerous effective technical measures for overcoming these weak links. The deputy director of the Provincial Academy of Agricultural Sciences, Dong Shijun [5516 0013 6874], said that some people regard the summarization and promoting of some existing measures for increasing yields as so much "gleaning of sesame seeds," which they do not think much of. In actual fact numerous breakthrough results both domestically and in foreign countries have been obtained through an all around coherent linking of science and technology. If only we will take firmly in hand existing measures for increasing yields and give attention to all around application of their mutually complementary dialectic relationship, the "sesame seeds" can turn into "watermelons." Experts at the meeting unanimously acknowledged that attention to coherency in existing techniques can effectively overcome, one by one, the weak links in increasing agricultural output, and this is a breakthrough measure in itself for grain production in Zhejiang Province this year. It is hoped that leaders at all levels will fully recognize this, and conscientiously take it in hand.

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CSO: 4007/344

ATTENTION GIVEN TO FEED POLICIES IN HOG RAISING

Hangzhou ZHEJIANG RIBAO in Chinese 16 Mar 82 p 1

[Article by Provincial Government Investigation and Research Office, Provincial Agricultural Commission, and Provincial Finance Department Operated Investigation Unit: "After Contracting Work Tasks to Individual Households How Can Hog Raising Feed Policies Be Implemented?"]

> [Text] Editor's Note: In some of the communes and brigades in Quzhou Municipality that have instituted the contracting of work tasks to individual households, while further perfecting agricultural production responsibility systems, the work of instituting hog quota purchase tasks and hog raising feed policies in individual households has been given attention. A briefing is given here for the reference of all jurisdictions on how communes and brigades in that municipality implemented hog raising feed policies.

The Method Used In Xiazhang Commune Was to Make Livestock Feed Grain a Part of Grain Payment Quotas, Recovering It From Contract Fields

1. Stable Livestock Feed Grain Policy. When a commune member sold a porker 1 jin of feed grain was allowed for every jin gross weight. To raise a sow required about 200 jin of feed grain for an entire year, which was provided by the collective.

2. No limit on number that may be raised. Year-end settling of accounts was done on the basis of the actual number of jin of porkers sold (as determined from coupons issued by food companies at the time of purchase), and the number of sows raised.

3. Advance setting of livestock feed grain. When contracting land, livestock feed grain, state requisition procurement, and collective withholdings were all assigned to households as part of their payment tasks, production teams making centralized settlement of accounts at year end. At the time of settlement of accounts, feed grain that commune members should receive according to policy regulations was offset against quotas they were to pay.

The Method Used by the Jujia Production Brigade in Lantang Commune Was to Apportion Livestock Feed Grain and Live Hog Raising Quotas on the Basis of Contracted Amount of Cultivated Land. They Made Three Stipulations Guaranteed to Remain Unchanged for Three Years as Follow:

1. For each fattened hog sold, the collective provided a bonus of 300 jin of livestock feed grain. For each sow raised, an annual bonus of 300 jin of Livestock Feed Grain was Given.

2. For every 2 mu of cultivated land contracted for, one porker had to be sold to the state or one sow raised.

3. On average, for each mu of cultivated land contracted, 150 jin of livestock feed grain was apportioned. At the time of final settlement of accounts at year's end, if live hog raising quotas had not been fulfilled, 18 yuan in cash was deducted per head by the production team (i.e. the price difference between 300 jin of paddy rice at the unified grain procurement price and the increased grain price).

This year this brigade has fixed a hog raising quota of 513 head for its 1,026 mu of land, and a sale quota of 400 head. This will assure overfulfillment of quota.

If at the Time of Instituting a Responsibility System Contracting Work Tasks to Individual Households, What Can Be Done If Hog Raising Feed Policies Were Not Instituted at the Same Time? The Method Used by Zhanjia Production Brigade Was As Follows:

1. On the basis of average amount of feed grain provided commune members during the past 3 years the amount of livestock feed land that should be apportioned to each commune member by the production team was calculated. This was converted to a total of 600 mu of livestock feed land for the brigade as a whole, which was contracted among each hog raising household.

2. On the basis of average yields of grain per mu during the last 3 years for the brigade, a yield of 1,400 jin per mu of livestock feed land was set, 100 jin of which was agricultural tax.

3. Set hog raising quotas on the basis of output of livestock feed fields. They set 1.5 jin of unhusked rice for every jin gross weight of live hogs sold, and 450 jin of unhusked rice per sow per year. Using this standard, for each mu of livestock feed land, 860 jin gross weight of porkers should be sold to meet live hog sales quotas.

4. Live hog quotas procurement tasks and livestock feed fields were both contracted to individual households for fulfillment, final settlement of accounts being made at year's end. If live hog sale quotas were not met, for each 100 jin of feed grain, the production team collected 6 yuan from the commune member.

Agreements were signed between production teams and commune members with the aforestated stipulations to remain in force for a period of 3 years.

The Method Used by the Shangdamen Production Brigade of Huayuan Commune Was As Follows: Simultaneous with the Contracting of Responsibility Fields and Grain Ration Fields, Livestock Feed Fields Were Designated

1. Fixing of Hog Raising and Selling Tasks. The average gross weight for hogs raised by commune members during 1979 and 1980 at the time they were taken out of inventory was used as a quota for commune member hog raising this year, and assigned to individual households (Households new to hog raising used self assessment and public discussion for their hog raising quotas). Production teams signed contracts with hog raising households setting sales quotas guaranteed without change for 3 years.

2. Fixing of livestock feed grain. On the basis of the hog raising policy originally set by the production team, livestock feed grain for the year as a whole was calculated. In order to encourage commune members to raise more hogs, an additional 20 percent of reserve livestock feed grain was added as the total livestock feed grain for 1982, for planned implementation in each individual household.

3. Fixing livestock feed fields. On the basis of the total amount of livestock feed grain needed for production team distribution to commune members for their hog raising tasks, and on the basis of comparative grades of land, simultaneous with designation of grain ration fields and responsibility fields was the designation of livestock feed fields for individual households. Generally 1 fen or 1.5 fen of land per porker was allocated, and 1.5 to 2 fen per sow.

4. Year-end accounts settlement. Settlement of accounts for sows was done on the basis of actual numbers raised. For porkers, commune members settled accounts with production teams on the basis of coupons issued at the time live hogs were sold. Those who overfulfilled quotas were paid 20 percent from reserve livestock feed grain. Those who did not fulfill quotas returned to production teams the livestock feed grain (including reserve grain). However, if output fell as a result of disasters and return of livestock feed grain caused hardship, 5.80 yuan in cash for each dan of unhusked rice could be returned.

After this production brigade adopted the aforestated method, the enthusiasm of commune members for hog raising was aroused. At the end of 1981, the number of household raised live hogs in inventory rose from 336 head for the same period in the previous year to 392 head, an increase of 56 head.

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CSO: 4007/344

BRIEFS

SPRAY IRRIGATION OF CASH CROPS--Spray irrigation techniques began to be promoted in Zhejiang Province in 1975, and now 71 counties (or municipalities) have spray irrigation equipment for the spray irrigation of an 830,000 mu area, more than 690,000 mu of which grows economic crops. It has been estimated that with the development of spray irrigation for economic crops, yields have increased by a general 15 to 40 percent. Annually the province as a whole has a 30,000 dan increase in harvests of dry tea, a 200,000 dan increase in citrus fruits, a 6,400 dan increase in silkworm cocoons, an 11,000 dan increase in cotton, a 150,000 dan increase in sugarcane, and a 5,600 increase in luoma [4820 7802] for a 25 million yuan increase in economic income. Spray irrigation is a new irrigation technique. Not only does it save labor, save water and take up less ground space than the usual ground surface irrigation, but irrigation is even, and it is possible to maintain the granular structure, proper moisture, fertility and ventilation of the soil to help crop root development and absorption of fertilizer and water. In addition crop leaves are washed, which helps in their respiration and photosynthesis, making it possible for the new to supersede the old. It also plays a role in prevention of certain diseases and insect pests; consequently results in increased yields are outstanding. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Apr 82 p 2] 9432

CSO: 4007/384

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TITLE: "Analysis of Spike and Grain Characteristics of Rice Plants of Different Effective Number of Tillers"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 2, 8 Mar 82 pp 1-3

ABSTRACT: For the purpose of clarifying the relationship, if any, between the characteristics of the spike and the grain and the number of effective tillers on a single rice plant, rice plants with less than 4 tillers beyond the main stem were studied in 1980 with the late rice and in 1981 with the early rice. Under the condition of dense planting (25 jin/mu of seeds for early crop and 15 jin/mu for late crop) the main stem appears to dominate as the producer while the tillers are few and weak. Small plot experiments were carried out to compare plants of a stem and tiller ratio of 1:2.8, 1:1.75, and 1:1.44. Under identical conditions of water and fertilizer applications but different transplanting densities, the yield was found to be the highest when the stem-tiller ratio was 1:2.8 with only 3 seedlings transplanted in a hole. In plots of 9 seedlings in a hole and 6 seedlings in a hole, the number of tillers was reduced because of crowding and the yield was lower as well.

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TITLE: "High Yield Experience From Early Planted Summer Soybean in Low Latitude Regions"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 2, 8 Mar 82 pp 7, inside back cover

ABSTRACT: An experiment was conducted in a field of 1.066 mu in the summer of 1981 to study the high yield principle of cultivating soybean under the ecological condition of the low latitude region of the south, such as Zhanjiang. The field produced an average of 404.7 jin/mu. Aside from using a superior breed, adopting a reasonable density of plants, and carrying out the scientific management method of promoting as well as controlling plant growth, it was discovered that in order to obtain a high fruiting rate, planting should be suitably early to utilize the light and temperature advantages. It is important that the pod formation and ripening stage should be in Jul-Aug with intense solar radiation and the longest daylight hours. This high yield experience is described in some detail.

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TITLE: "A Method of Fertilizer Application for High Yield Rice By Mainly Adjusting the Soil Nitrogen Supply Index"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 2, 8 Mar 82 pp 19-22

ABSTRACT: Based upon the soil nitrogen supply indices previously obtained (see GUANGDONG NONGYE KEXUE No 6, 81 pp 32-35 and No 1, 82 pp 27-30) the authors conducted an experiment in 5 types of soils to study the use of adjusting and controlling the soil nitrogen supply index as the major principle of applying fertilizer for high yield rice. According to a previous experiment in Chaoshan Prefecture, regardless of the nature of the soil, if the yield is to be about 900 jin/mu, the soil nitrogen supply index in the various stages of growth of the rice plant must reach about the same level. With this experiment, carried out in the spring of 1964-65 and in the winter of 1979-81, the index was predetermined to be 17.20 jin/mu. Throughout the growth and development period, the soil was tested to obtain the

[continuation of GUANGDONG NONGYE KEXUE No 2, 1982 pp 19-22]

nitrogen supply index before determining the need for nitrogen application 5 times in 6-day intervals. The following equation was obtained to calculate the amount of nitrogen fertilizer required, A: $A = \frac{I - (a + U)}{P \times E}$. Where I is the nitrogen supply index determined beforehand; a is the effective nitrogen possibly supplied by the soil on the 6th day after the test (estimate); U is the cumulative nitrogen absorption of the rice plant; P is the nitrogen content of the fertilizer; and E is the effective rate of the nitrogen fertilizer. In the years of 1964, 65, 80, 80, and 81, in soils of various fertility levels and under different conditions of weather, according to the experience of farmers, when this fertilizer application principle was followed, with suitable addition of phosphrus, potassium, etc. the yields were 886, 903, 941, 1033, and 996 jin/mu respectively.

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TITLE: "Nitrogen-Potassium Nutritional Imbalance of Low Yield Rice and the Yield Increase Effect After Potassium Application"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 2, 8 Mar 82 pp 23-27

ABSTRACT: Due to potassium deficiency of soil and rice nutritional imbalance following an imbalance of nitrogen and potassium in the soil, red spot and sesame leaf spot [Helminthosporiose] diseases have occurred in the various rice producing regions of China in recent years. In Meijiang Commune, the diseases often occur after tillering. Some areas of Meixian Prefecture have always had the tradition of applying 200-400 jin/mu of lime, resulting in a replacement of potassium by calcium while a surplus of calcium ion may also reduce potassium absorption of the rice plants. This paper reports the results of several experiments indicating that in potassium deficient paddy soils, when more than 15 jin/mu of pure nitrogen is applied, red and brown spot diseases will seriously occur, but if an additional 10 jin of potassium sulfate, or 5 jin/mu of K_2O is applied, the disease resistance of the rice plants will improve and the yield will increase.

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TITLE: "A Promising Green Manure--Vicia Sativa L."

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 2, 8 Mar 82 pp 28-30

ABSTRACT: In 1977, the Agricultural Science Station of Yunyan Commune introduced a small amount of seeds of Vicia sativa L. Experimental cultivation and seed propagation of these 4 years have been very successful. Advantages of this green manure have been found to be the following: (1) High yield and not labor consuming: The yield of grass may reach 3 - 5 thousand jin/mu and that of seeds 120-200 jin/mu. Planting and management take 3 man-days for grass and 5 for seeds. (2) Highly effective as fertilizer and capable of improving soil: Tender leaves are easily decomposed and the roots have many root nodules; (3) Drought resistant, broadly adaptable, and subject to very few pests; (4) Rich protein and starch containing seeds very good as a swine feed: Leaves and seeds of this species contain a small quantity of cyanate; therefore, they must be cooked before feeding them to animals.

6248
CSO: 4011/107

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TITLE: "Yield Structure and Adjustment and Control Technique of Early-Xian-233"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 pp 1-4

ABSTRACT: Early-xian-233 is an intermediate ripening breed bred out in 1978 by the Breeding Group of Fujian College of Agriculture through hybridization of Zhenlong-410 and Shilunbang before back-crossing with Zhenlong-410. It participated in the provincial early rice region experiment project in 1980 and 81 and demonstrated various degrees of yield increase over several local breeds. In 1981, 300 thousand mu of it were extended throughout the province. The author and colleagues carried out a cultivation experiment early in 1981. The yield structure of 36 paddies of varying yield levels and the fertilizer application and planting density data of this experiment are reported in the paper. The paper also contains such information as the effects of potassium fertilizer applications, the growth and development periods of different seeding and transplanting dates, the effects of low temperature in May 81 on spike development, etc.

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TITLE: "Preliminary Understandings Regarding Triple-crossed Hybrid Rice"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 p 5

ABSTRACT: In the recent 3 years, triple-crossed hybrid rice has been cultivated in Fujian in large areas. It appears to be high yielding in seed propagation and the hybrids are highly adversity resistant. According to the statistics of the provincial Department of Agriculture, the acreage has been enlarged from the 200 thousand mu of 1979 to the 830 thousand mu of 1981. The experiment of Sanming Prefecture Seed Company in 1979 proved that the yield of the triple-cross$(V_{41}A \times \text{Zhenxian-97})F_1 \times IR_{661}$ is higher than the single crosses of its own group and that of several other breeds. In the paper, the author suggests that because of the genetic characteristics of the triple-cross, attention should be given to the following: (1) The F_1 sterile line must be completely sterile; (2) The stalk height of the restorer line must be similar to those of the sterile line and the temporary sterile-free line; (3) At least one of either the sterile line or the temporary sterile-free line must have good blooming habit; (4) Based upon the breeding target, all parents must be selected for the capability of complementing one another in the adversity resistant characteristics and the yield structure factors if the expected results are to be obtained.

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TITLE: "Selection Breeding and Utilization of the Late-xian,Jinnanwan"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 pp 6-8

ABSTRACT: Jinnanwan is a new, typically late intermediate-ripening breed of late xian rice bred out in the early 70's. It has been extended to 740 thousand mu in the 2 prefectures of Jinjiang and Longqi to result in a total increase of more than 20 million jin of rice production. In the spring of 1971, F_2 materials were introduced from South China College of Agriculture in Hainan Island and were propagated twice in the south before being named Jinnanwan in the autumn of 1973. Its growth and development period is about 155 days but its daylight requirement is strict. When it is seeded in late May or early or middle Jun to be transplanted in early Aug, it will always begin spike evolvement in the middle of Sep but its total growth and development period may be affected by conditions of light and temperature of different years and by such factors as fertilizer managment. Its yield is 5-7 percent higher than farm breeds. Its resistance to lodging and cold wind is high. In cultivation, it should be seeded at a proper time. At transplanting, the seedlings should be 60 days old. Its tillering capacity is medium strong; generally with 7 seedlings in a bundle in spaces of 5 x 4 or 6 x 4 cun, the density is the most suitable. Seeds shed relatively easily during ripening time. Irrigation should cease one week before it is ripe and harvest should be fast.

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TITLE: "Experimental Cultivation of Weilaimusi Soybean"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 pp 12-13

ABSTRACT: Weilaimusi [Williams ?; the name indicates its Western origin] soybean was introduced to the institute in 1980 and 2.5 mu of it was cultivated in the spring of 1981. The average yield was 304 jin/mu; the average yield of the high-yield cultivation plots reached 372-380 jin/mu, 3-5 times the yield of local soybean breeds. Preliminary observations indicate that aside from the high yield property, its stem is thick, its branches are few, its internode is short, its pod location is low. Each pod contains many beans. It is resistant to lodging and is tolerant to fertilizer. Its pest resistance is rather high. The pod does not burst open easily during the late stage. Results of experimental cultivations of past 2 years are briefly reported.

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TITLE: "Problems of Direction and Strategy in Wheat Breeding"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 pp 14-19

ABSTRACT: During the previous year and one winter before that, while participating in the work of compiling and writing ZHONGGUO XIAOMO PINZHONG JI QI XIBU [CHINESE WHEAT BREEDS AND THEIR GENEALOGY] the author felt that in the past 32 years, a great deal of wheat breeding work has been carried out in China and nearly one thousand breeds have been produced. He also discovered some problems: (1) The breeding target has often been a yield of more than one thousand jin while the actual average wheat yield in China is only about 200 jin. The current change of efforts in the direction of scab resistance instead of ultra-high yield is both wise and realistic. (2) The genetic foundation of the parents has been rather limited. The number of genetic origins of the nearly one thousand breeds all over the country is only fourteen. Efforts must be made to find new sources, especially sources of rust resistant antigens. (3) The methods of breeding appear to be always the same. By learning from the USSR, back-crossing was believed to have little potential, for example. In reality, in foreign countries it is a popular method and considered to be useful

[continuation of FUJIAN NONGYE KEJI No 2, 1982 pp 14-19]

for resolving some problems. (4) There have been some domestic cooperative projects in crop breeding. For example, in the early 50's, cooperative efforts in the spring wheat regions of the Northeast were successful in controlling stem rust epidemics very quickly. At present, individual units or elements are still conducting political battles against one another and cannot get into the habit of cooperative breeding work. The paper praises the cooperative breeding project being carried out by members of the Plant Protection Division and the members of the Crop Breeding Division of the Wheat Breeding Research Office of the Institute of Rice and Wheat of the Fujian Provincial Academy of Agricultural Sciences as being a very worthy example. Following the above criticisms of the past projects, some constructive opinions for wheat breeding work of the future are presented.

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TITLE: "Yield Increase Effects of Intercropping in Coastal Lands and the Cultivation Technique"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 pp 20-22

ABSTRACT: The coastal region of the southeastern part of Fujian has a large population and very little land. Intercropping and collective management have; therefore, become a special regional characteristic, and many systems have been created. For example, in Jinjiang County, of the 144.8 thousand mu of peanuts, 110 thousand mu are intercropped with sweet potatoes. There is also the system of intercropping peanuts with soybeans as well as sweet potatoes to form the so-called double and triple intercropping systems. These systems are described in the paper, giving reasons for the yield increase effects of these systems. If these systems are to be successful, the selection of suitable breeds, planting all crops at a suitable time, reasonable density of plants to guarantee a sufficient number of each, and intensive management measures are essential. These cropping methods are introduced.
6248
CSO: 4011/104

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TITLE: "A Survey of Corn in North China"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 1, 17 Jan 82 pp 1-3

ABSTRACT: From 25 Aug to 12 Sep 81, the Chinese Academy of Agricultural Sciences organized a team of 25 scientists and teachers to investigate regions of Hebei, Henan, Shaanxi, Shanxi, Shandong, Tianjin, and Beijing, emphasizing on the cultivation condition of corn. The team discovered that these 7 provinces and cities constitute one of the major corn producing regions of China, with a total of 125 million mu of corn acreage, an increase of 80 percent compared with the time just after the liberation. The yield now varies from 6 hundred jin to close to one thousand jin/mu, except for arid, damp, and saline fields where the yield is less than 200 jin/mu. Corn is intercropped in wheat fields or planted after the wheat harvest; both systems were found to have advantages and disadvantages. The ratio of hybrid corn was found to vary from 75 to 96 percent but the majority of the hybrids were still the less than economically favorable single crosses. The target of the breeding work has been properly determined to be resistance to 2-3 locally predominant pests and suitable for wheat fields. The major problem was found to be breed impurity, resulting in yield reduction of 21.4 percent in some cases, virtually wiping out the advantage of heterosis utilization.

AUTHOR: None

ORG: None

TITLE: "Superior Breeds of Corn"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 1, 17 Jan 82 pp 4-9

ABSTRACT: This paper includes descriptions of the following 16 breeds of corn: (1) Luyuandan No 4: A single cross hybrid produced by Research Institute of Agricultural Utilization of Atomic Energy, Shandong Provincial Academy of Agricultural Sciences, and extended over 10 million mu; (2) Jinxia No 1: A triple cross summer hybrid produced by Tianjin Municiple Institute of Plant Protection; (3) Fengdan No 1: A single cross with comprehensive disease resistance, produced by Institute of Plant Protection, Chinese Academy of Agricultural Sciences; (4) Yundan No 1: A single cross suitable for the mountainous regions of the Southwest, produced by Yunyang Prefecture Institute of Agricultural Sciences, Hubei Province; (5) Longdan No 1: A single cross with a short growth and development period of 100 days, produced by Institute of Crops, Heilongjiang Provincial Academy of Agricultural Sciences; (6) Heyu No 13: An early ripening (102 days) single cross, produced by Hejiang Prefecture Institute of Agricultural Sciences, Heilongjiang Province; (7) Tangdan-16: A single cross with an average yield of 980.5 jin/mu, produced by Tangshan Prefecture Institute of Agricultural Sciences, Hebei Province; (8) Jidan No 3: A single cross produced by

[continuation of NONGYE KEJI TONGXUN No 1, 1982 pp 4-9]

Research Institute of Agricultural Crops, Hebei Provincial Academy of Agriculture and Forestry; (9) Xudan No 3: A single cross weighing 300 g/1000 grains, produced by Xuchang Prefecture Institute of Agricultural Sciences, Henan Province; (10)Xudan No 4: A single cross, weighing 213 g/1000 grains, produced by Xuchang Prefecture Institute of Agricultural Sciences, Henan Province; (11) Changdan No 15: A single cross suitable for regions of more than 140 frostfree days, produced by Institute of Grain Research, Shanxi Provincial Academy of Agriculture; (12) Changdan No 17: A dwarf single cross measuring 205 cm, produced by Institute of Grain Research, Shanxi Academy of Agriculture; (13) Yundan No 1: A high yield single cross, 700-800 jin/mu in fields of average fertility, over 1000 in/mu in fields of good water and fertilizer condition, produced by Corn Group, Institute of Cotton, Shanxi Provincial Academy of Agriculture; (14) Yundan No 2: A medium to early ripening single cross, weighing 313.5 g/1000 grains, produced by the Corn Group, Institute of Cotton, Shanxi Provincial Academy of Agriculture; (15) Yandan-14, Yandan-15: Single crosses bred on the basis of high photo-efficiency by Yantai Prefecture Institute of Agricultural Sciences, Shandong Province; (16) Zhedan No 4: A intermediate ripening single cross of an average yield of 864.8 jin/mu, produced by Zhejiang Province Dongyang Institute of Corn Research. The above breeds are described in some detail, including essential cultivation instructions, prices of seeds, maximum size of order, etc.

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TITLE: "Cultivate Strong Early Rice Seedlings With 3-Intensive Technique"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 1, 17 Jan 82 pp 10-11

ABSTRACT: For the purpose of preparing for meeting the urgent needs of agricultural technology by production teams and farming households after the implementation of production responsibility system in rural villages, the Nan county departments of agricultural technology located on the lakeshore of Dongtinghu organized learning classes in 1981 to bring scientific seedling cultivation techniques to the farming masses. The emphasis is on the 3-intensive technique, i.e. intensive leveling of seedbeds, intensive planting procedure, and intensive management system. The rate of strong seedlings is raised from the 61 percent of 1980 to 68.8 percent. These good and strong seedlings guarantee the acreage and planting density of early rice and there has been a yield increase in every commune of the county. From the 430 thousand mu of early rice in the county, the total yield is 307,310 thousand jin, amounting to an increase of 19.7 percent over the yield of 1980. Details of this successful seedling cultivation technique are described.

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TITLE: "A National Survey of Cotton Breeds"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 1, 17 Jan 82 pp 18-19

ABSTRACT: For the purpose of clarifying the conditions of selection breeding of cotton and the extension of superior breeds in the major cotton-producing provinces of China, the Cotton Research Institute of Chinese Academy of Agricultural Sciences and the Bureau of Seeds of the Ministry of Agriculture organized a survey team, which was divided into the east and the west sections. From 9 Aug to 2 Sep 81, the team visited 16 scientific research units, 27 provincial and prefecture seed companies, 12 seed farms, 19 rural cotton breeding bases, and 6 textile fiber inspection units in Hebei, Henan, Shaanxi, Shandong, Jiangsu, Hubei, Hunan, Jiangxi, and Shanghai. According to preliminary statistics, there are 22 breeds bred out in China that have been extended to over one million mu. In all the areas visited, these breeds are rapidly replacing breeds introduced from foreign countries. The most outstanding one is Lumian No 1. Last year, the area of its extension reached 18 million mu. Aside from the achievements and experiences of cotton breeding and breed extension, the paper also suggests the following: (1) Strengthen national cooperation in cotton breeding work; (2) Strengthen theoretical research; (3) Emphasize improvement of fiber quality; (4) Strengthen breed certification, regionalization, propagation, and extension work.

6248
CSO: 4011/108

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TITLE: "High Yield Technique and Principle of Dry Cultivation of Paddy Rice"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 4, 17 Apr 82 pp 4-5

ABSTRACT: The dry cultivation of paddy rice technique began to be studied and experimented in 1973 and since then it has been extended to some areas of North China. Due to the fact that it is suitable for the weather condition of spring drought and summer waterlogging of North China and its characteristics of saving water, labor, and fertilizer and convenience for machine cropping, the acreage is being enlarged year after year. In 1981, there was a drought in Beijing, the acreage reached 90 thousand mu, amounting to 1/10 of the total rice acreage in the city. In Japan, transplanted paddy rice has a reported highest yield of 1,753.6 jin/mu but only 1,350 jin/mu for dry seeded paddy rice. In China, in years of 79-80 there have been reports of 1,200 jin/mu yield of dry seeded paddy rice. From the experimental field of the institute, the highest yield is only 981.7 jin/mu (1975) however. Various efforts and experiments in 1979 and 1980 to cause the yield of the dry cropping technique to reach or surpass that of the paddy technique are reported. The technique of reducing the density to promote tiller spikes appears to be promising. More work is needed to find the optimal management of fertilizer and water.

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TITLE: "Several Problems in Good Cropping of Hybrid Paddy Rice"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 4, 17 Apr 82 pp 6-9

ABSTRACT: At present, there is a steady development of hybrid rice culture in China but in production there remain the problems of simple grouping, overly long growth and development period, poor adversity resistance, and low and unstable yield of seed propagation. It appears that whenever the scientific principle of using groupings suitable for a particular locality is adhered to, a greater yield increase result is obtained. According to the statistics reported at the South China Hybrid Rice Survey Conference in Yueyang of Hunan Province in Dec 81, the acreage of groups having good resistance to local pests has been steadily and quickly enlarged and that of other groups shrunk to the extent the lost from diseases and pests has been effective lessened. This paper reports various scientific experiments and production experiences designed to overcome the aforementioned problems so as to guarantee a stable extension of hybrid rice culture. There is no mention in the paper in specific words that it is in fact a brief summary of the conference mentioned above.

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TITLE: "New Progress in the Research on the Utilization of Wild Cotton: Interspecific Hybrid of Upland Cotton and Gossypium anomalum"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 4, 17 Apr 82 pp 17-19

ABSTRACT: Taxonomically speaking, the major cotton breeds used in production at present in China are all bred out from upland cotton, through artificial selection, hybridization, and cultivation. Due to their limited genetic origin, it is rather difficult to produce outstanding new breeds of comprehensive characteristics. In the future, as the 4-modernization construction progresses, cotton breeds will have to be not only high and stable yielding, but also suitable for mechanical cropping, highly resistant to diseases and pests, and low cost and they must also produce quality cotton fiber suitable to weave into mixed fabrics and seeds of high oil and protein contents suitable as human food as well as animal feed. In order to meet these breeding requirements, distant hybridization is becoming necessary. In the last 3 years, with the help of related organizations, more than 10 wild cotton species were introduced from foreign countries. Of these, G. anomalum is of African origin. So far, one interspecific hybrid of upland cotton (Henan-79) and G. anomalum has been obtained. This experimental breeding process is briefly reported.

6248
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